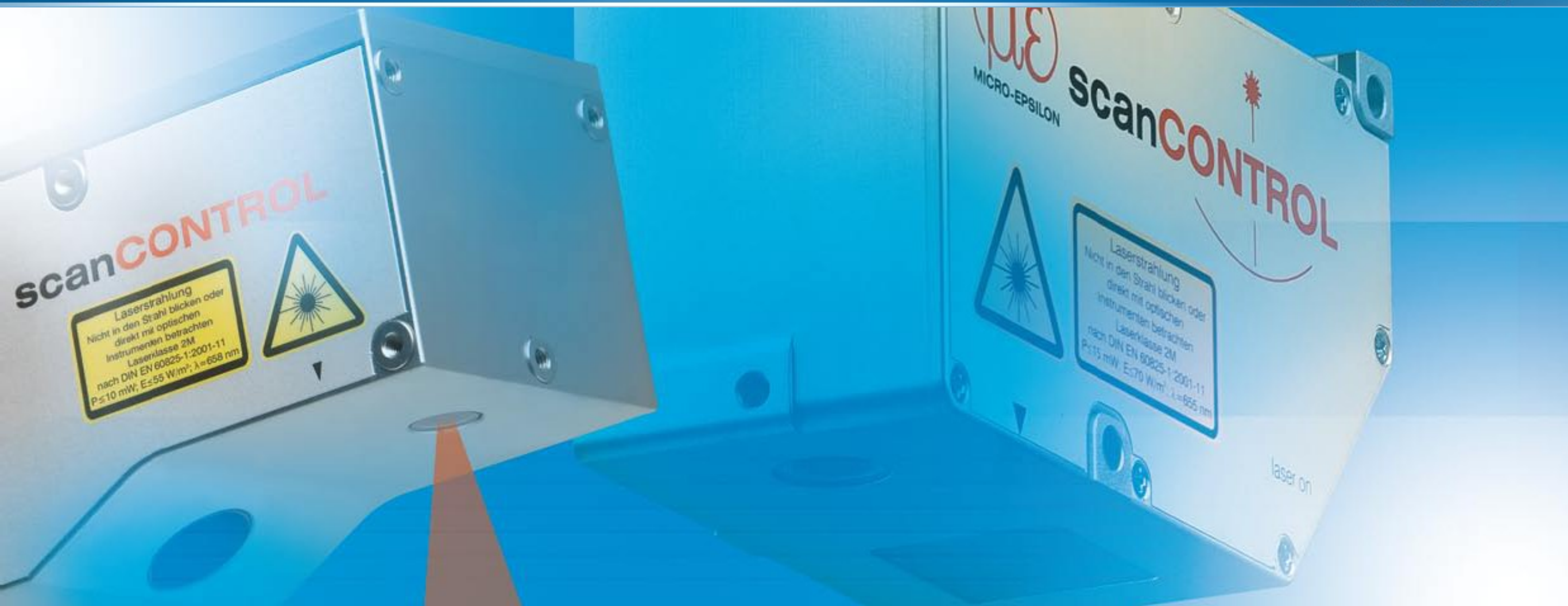
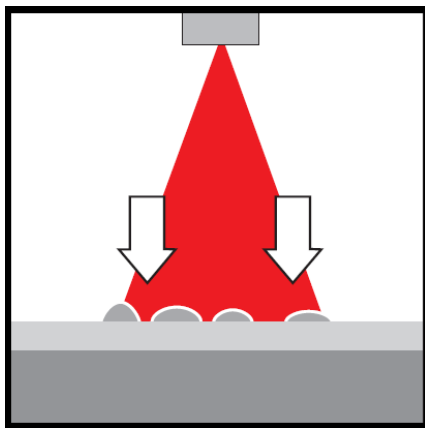


What is scanCONTROL?

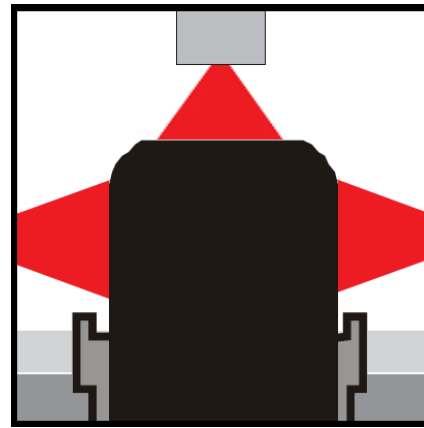


The laser-line profile sensor **scanCONTROL** makes use of the triangulation principle for two-dimensional acquisition of profiles on a variety of different target surfaces.

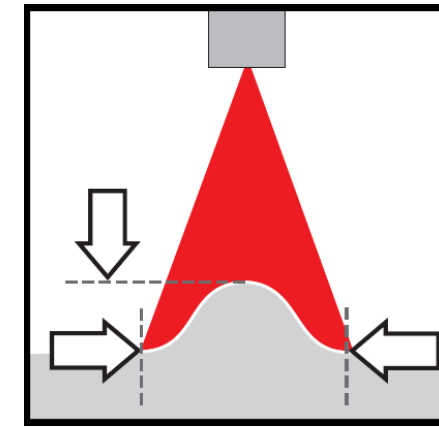
This system is characterized by high flexibility and accuracy of measurement.



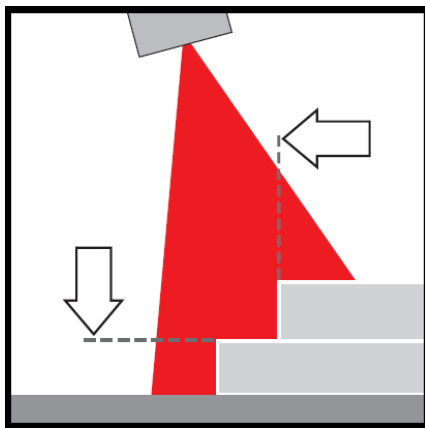
2D/3D surface inspection to
detect surface defects



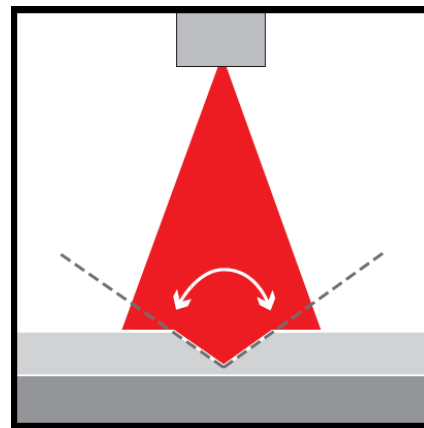
Profile
inspection/monitoring



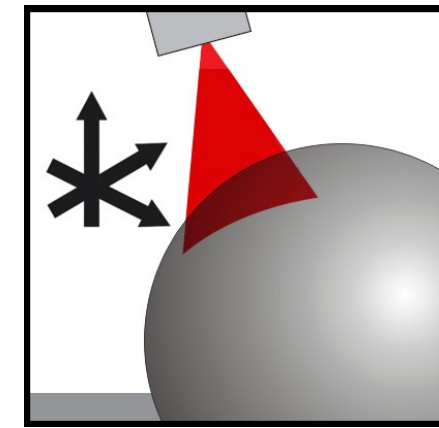
Control/follow glue
beads/welding seams



Height/depth
measurement

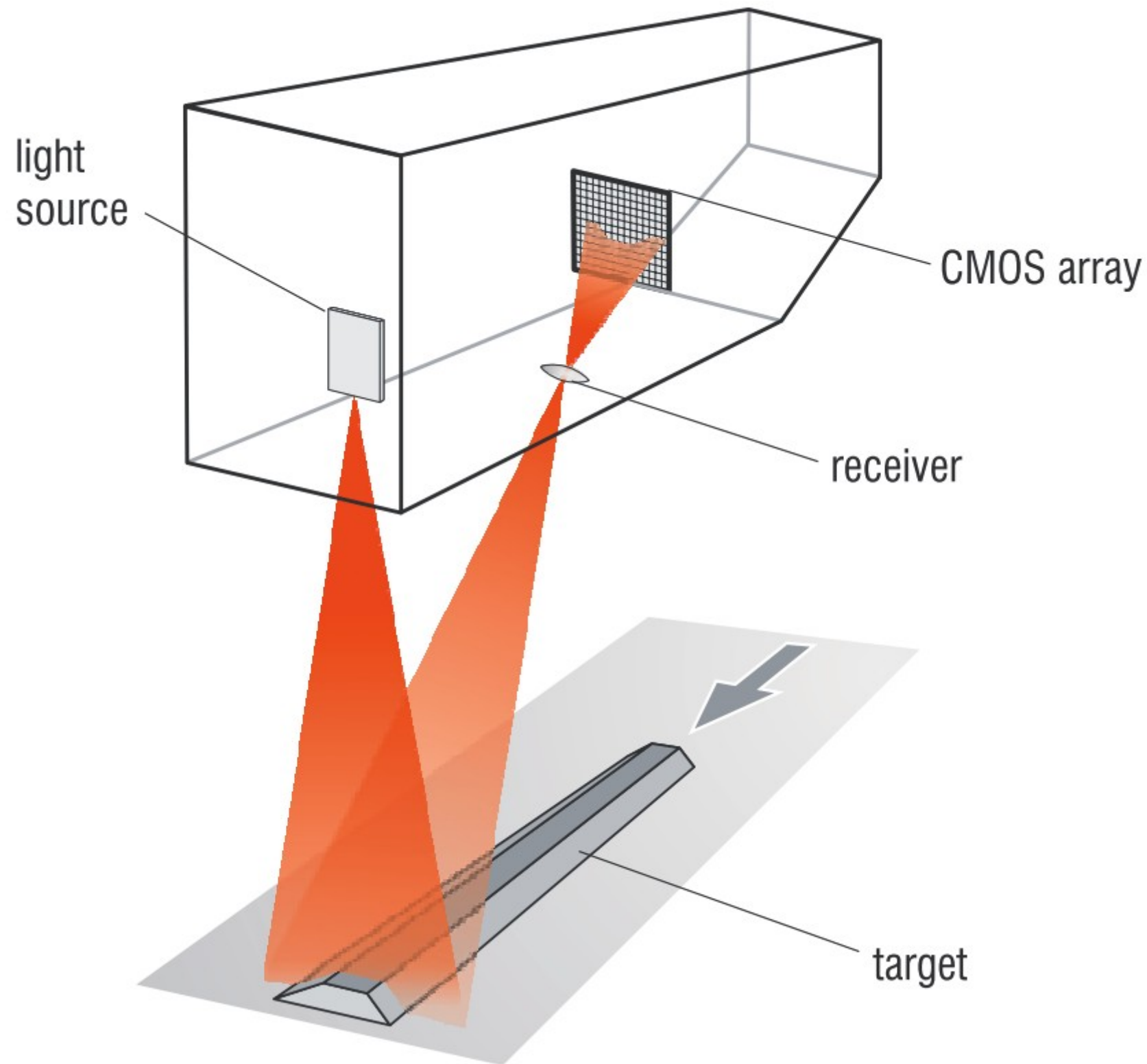


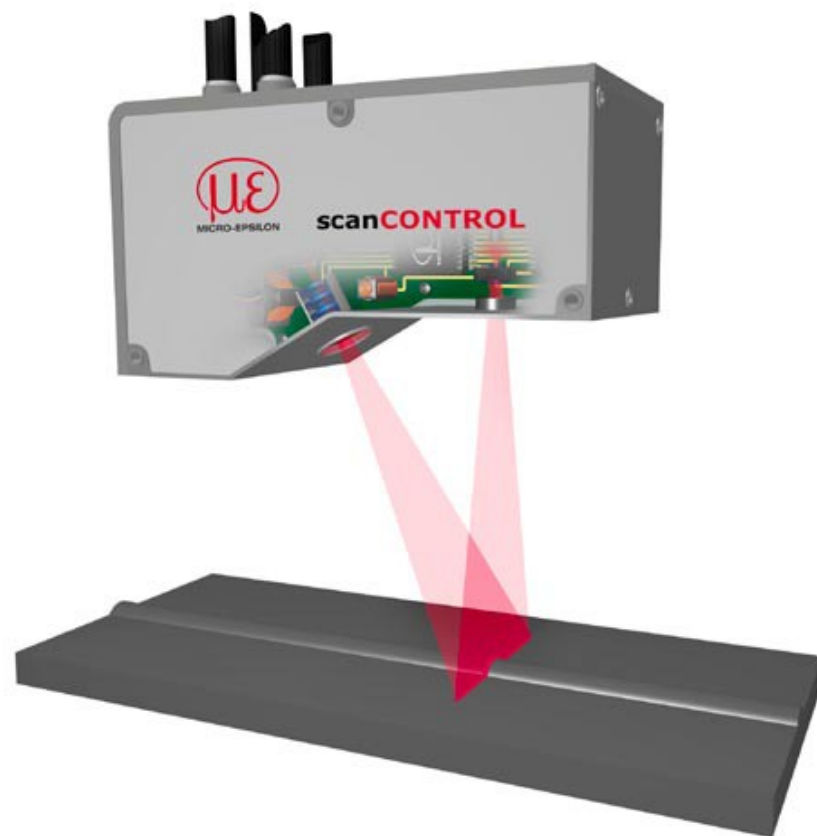
Angle measurement



3D-coordinate
measurement

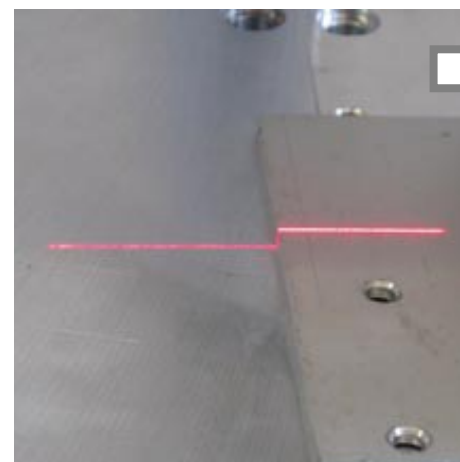
scanCONTROL Measuring Principle



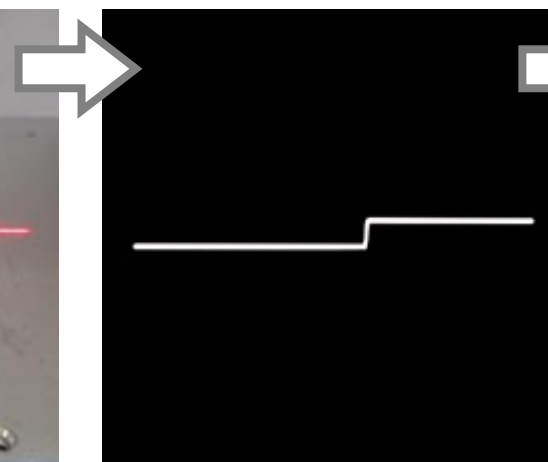


Laser-line triangulation

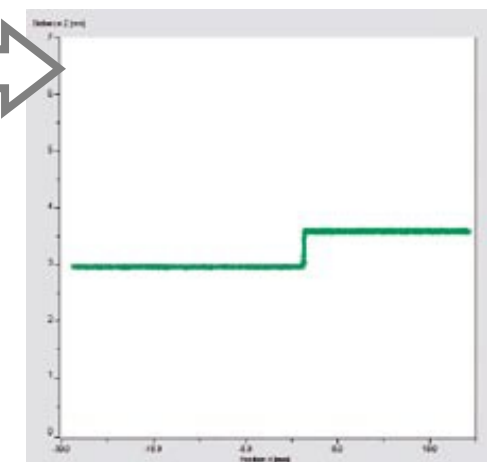
- Projecting a laser line on the target surface instead of projecting a single point
- Diffuse reflected light of the laser line is registered by a high quality sensor array
- Calculation of the distance coordinate Z and the actual position X along the laser line for all measuring points



Laser-line
Diffuse Reflection



Sensor array
pixel



Calibrated Measuring points
X/Z (mm)

COMPACT

scanCONTROL Compact

- Sensor for static and dynamic measurement with integrated controller
- Fast integration in user application

HIGH-SPEED

scanCONTROL High-Speed

- Sensor for highly dynamic processes
- Best suiting for 3D applications

SMART

scanCONTROL Smart

- Sensor with integrated profile analyzes
- Plug&Play solution without additional PC



scanCONTROL 2700

- Profile frequency up to 100 Hz
- Measuring rate up to 64.000 points/s
- Reference resolution z-axis up to 4µm
- Resolution x-axis up to 640 points
- Interfaces: Ethernet or IEEE1394, RS422



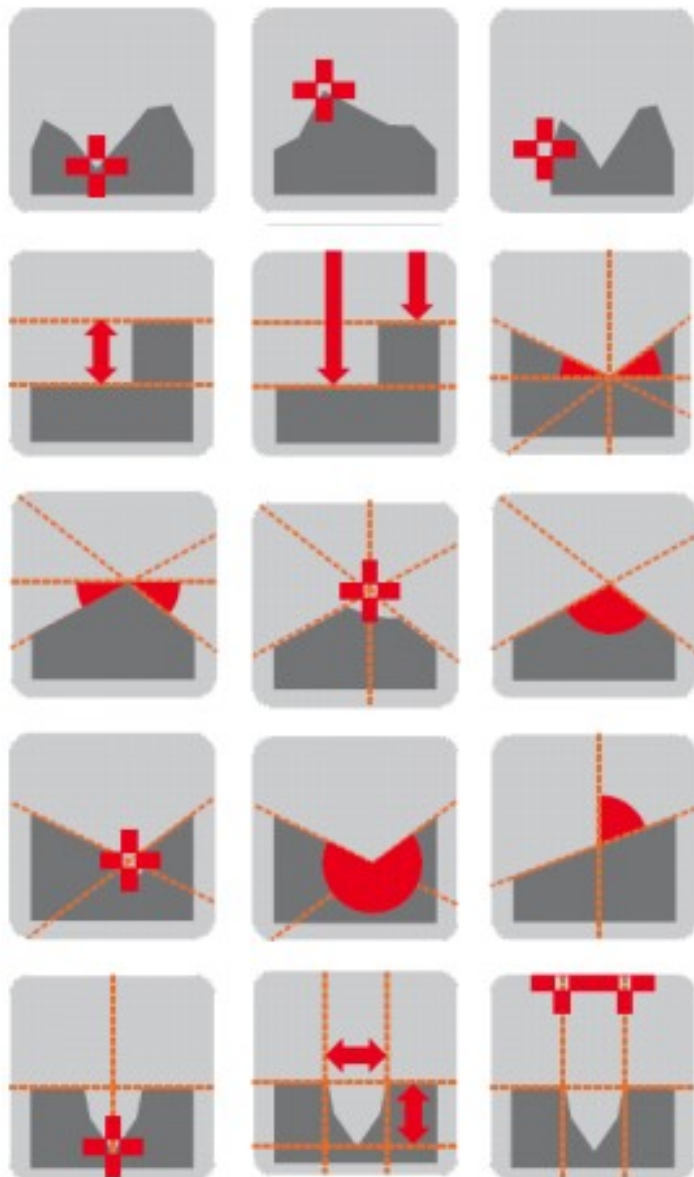
scanCONTROL 2750

- Profile frequency up to 2000 Hz
- Measuring rate up to 1.280.000 points/s
- Reference resolution z-axis up to 4µm
- Resolution x-axis up to 640 points
- Interfaces: Ethernet or IEEE1394, RS422



scanCONTROL 2800

- Profile frequency up to 4000 Hz
- Measuring rate up to 256.000 points/s
- Reference resolution z-axis up to 2µm
- Resolution x-axis up to 1024 points
- Interfaces: IEEE1394, RS232, RS422



scanCONTROL 2710/2810

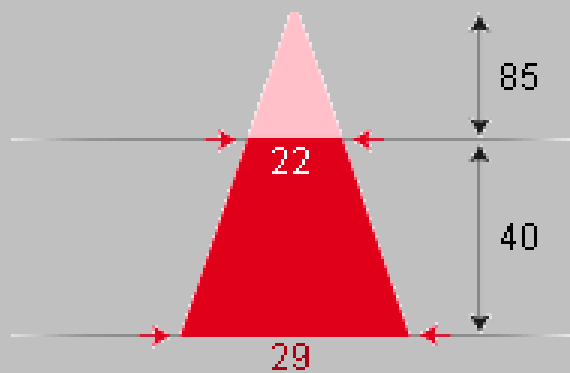
- Sensors with integrated profile analyzes
- The plug & play solution for automation
- Fast success for a variety of standard measurement applications
- Integrated calculation on controller
- Intuitive Setup Software
- Digital output (OK/NOK)
- Measuring values via analogue output
- Measuring values via RS422

scanCONTROL Measuring Range



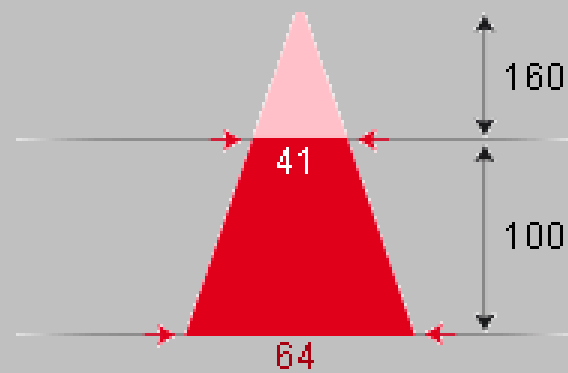
scanCONTROL
2700-25/2710-25/2750-25

640 points / 4 μ m*



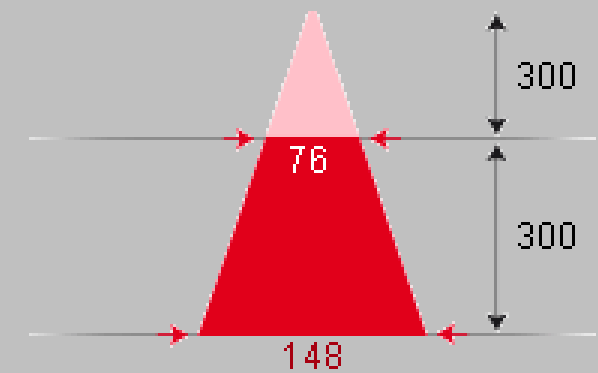
scanCONTROL
2700-50/2710-50/2750-50

640 points / 10 μ m*



scanCONTROL
2700-100/2710-100/2750-100

640 points / 15 μ m*



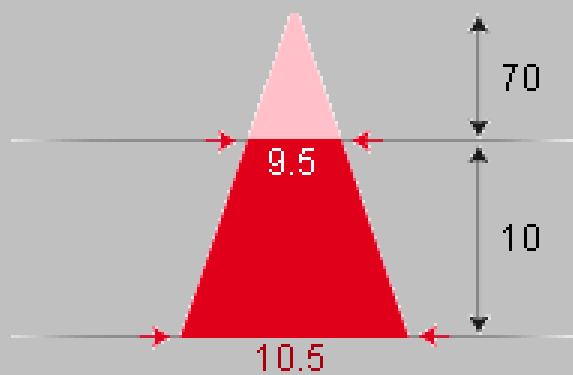
*) Number of points / Reference resolution z-axis: According to a one-time averaging across the measuring field with Micro-Epsilon standard object
Maximum depth of extended measuring range

scanCONTROL Measuring Range



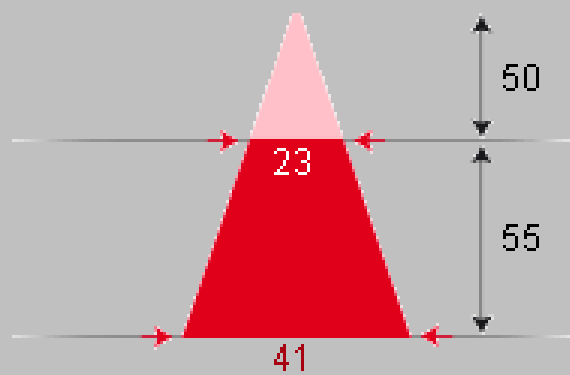
scanCONTROL 2800-10/2810-10

1024 Punkte/ 2 μ m*



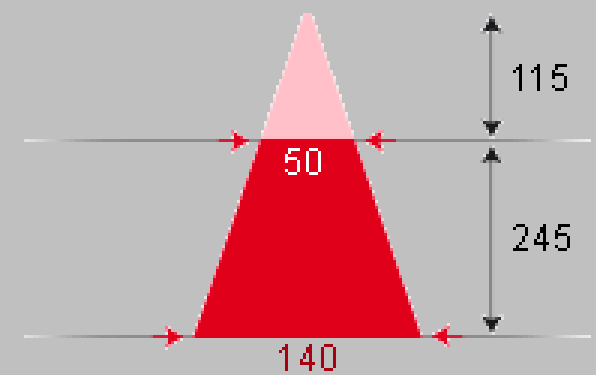
scanCONTROL 2800-25/2810-25

1024 Punkte / 4 μ m*



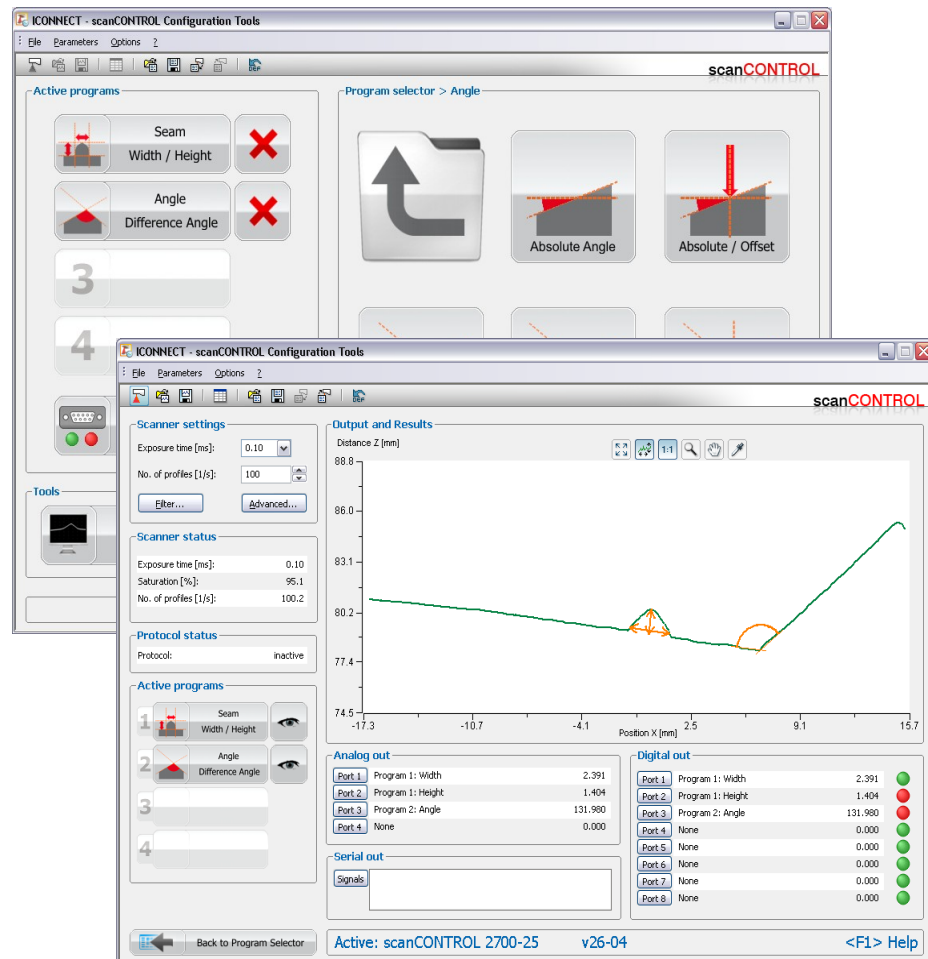
scanCONTROL 2800-100/2810-100

1024 Punkte / 10 μ m*



*) Number of points of the extended measuring field / Reference resolution z-axis: According to a one-time averaging across the measuring field with Micro-Epsilon standard object
Maximum depth of extended measuring range

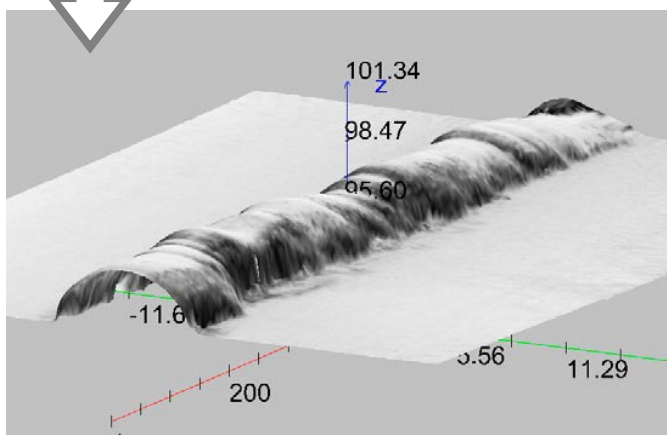
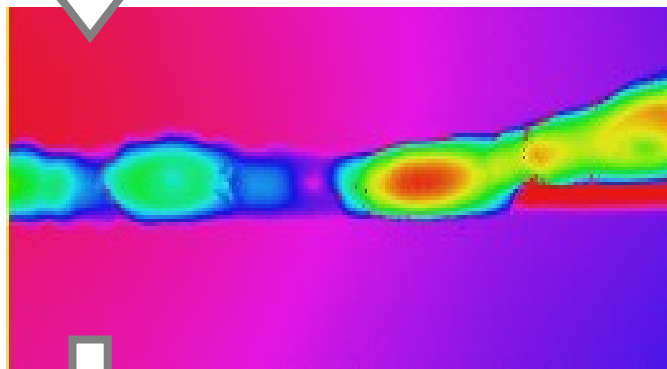
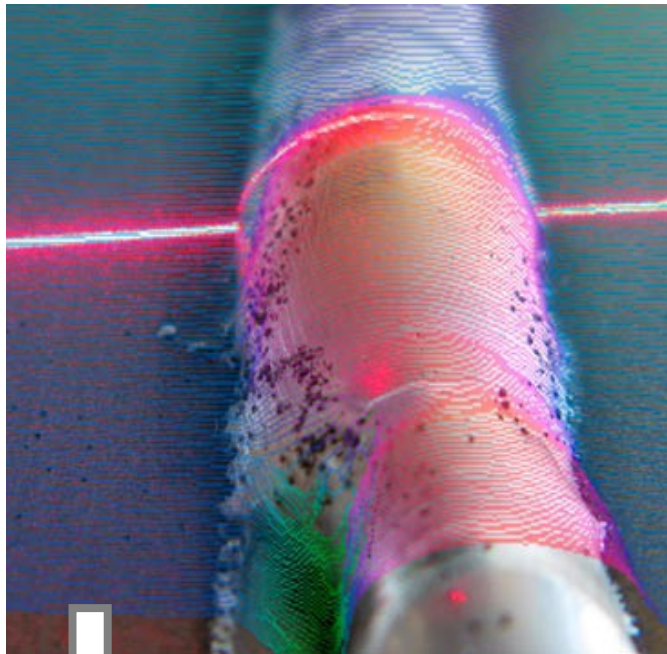
scanCONTROL Configuration Tools



SMART

Configuration and parameterization tool

- Can be used with all **scanCONTROL** sensors
- Full function with **scanCONTROL** 2710/2810 series
- Integrated setup tools for setting up the sensor
- Combining individual measuring tasks. Choosing from over 20 measuring programs
- Configuring the measuring programs with mouse interaction directly in the profile
- Configuring the analogue and digital outputs of each sensor
- Configuration of the optional output unit to extend the number of interfaces



scanCONTROL 3D-View

- Can be used with all **scanCONTROL** sensors
- Viewing online and offline sensor data in 3D
- 2D export of profile sequences (png)
- 3D export (asc, stl) for CAD programs
- Intensity of each point can be displayed and exported

COMPACT

HIGH-SPEED

scanCONTROL Integration

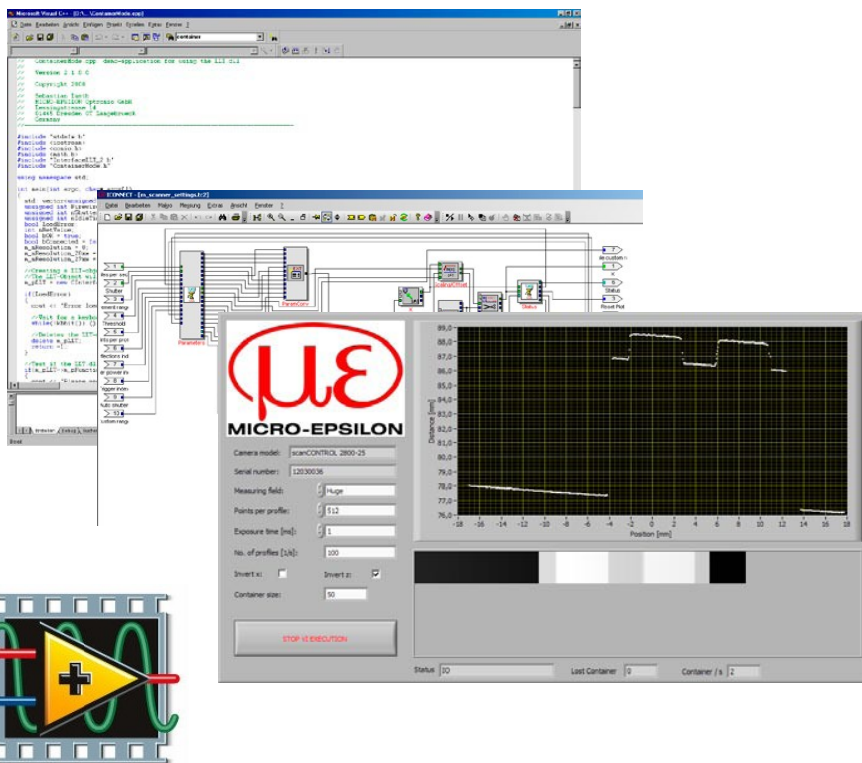


Standard PC interfaces

- FireWire IEEE 1394a DCAM – standard v1.30
- Ethernet GigE Vision

Integration in application software

- LLT.DLL and SDK and library for integration in C/C++ and C#
- CMU module for ICONNECT
- Example VIs for NI LabVIEW using LLT.DLL or NI IMAQdx



COMPACT

HIGH-SPEED



SMART

Following welding seam

- **scanCONTROL 2710-100**
- Position of bead
- Detection of interruptions and welding wire residues of the welding seam
- Speed 30m/min

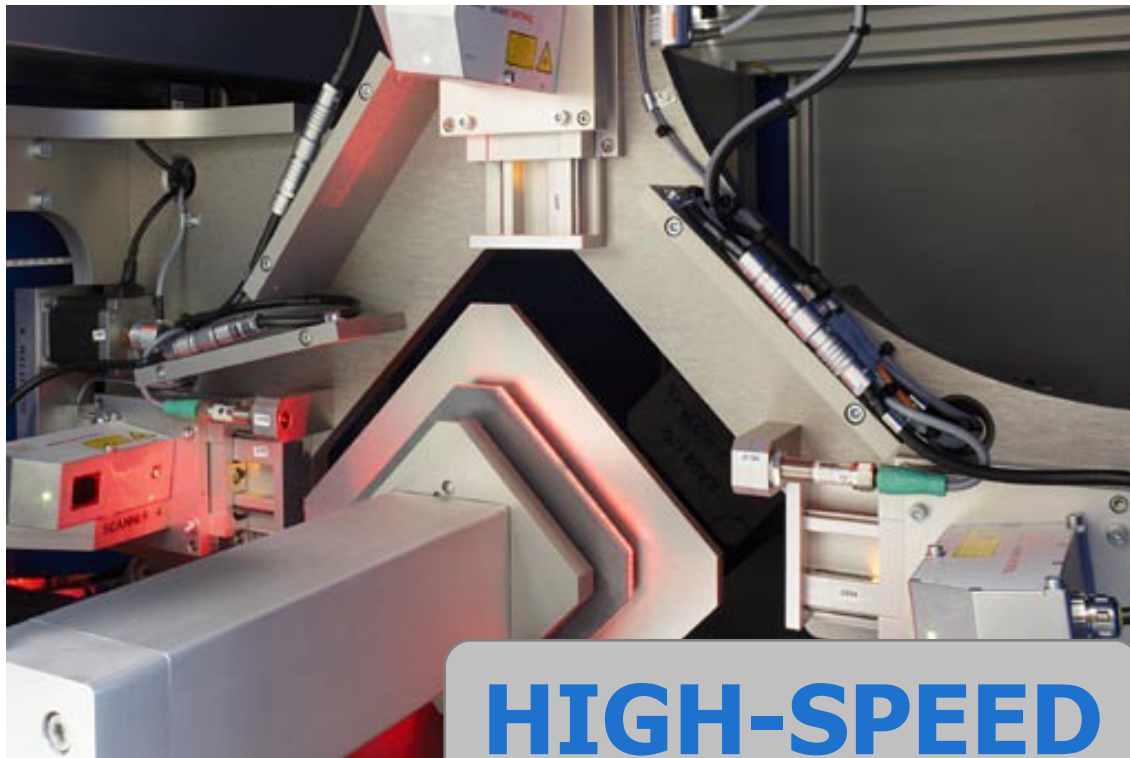


SMART

Positioning task

- Positioning for laser welding
- **scanCONTROL 2810-25**
- Intersection point and position
- System accuracy: 0,15mm
- Repeatability: 0,03mm

scanCONTROL Application Examples



HIGH-SPEED

Geometry inspection

- **scanCONTROL 2800-100**
- Measurement system with four **scanCONTROL** sensors
- Inspection of different dimensions and angles
- Different surface properties



HIGH-SPEED

Tire control

- **scanCONTROL 2750-100**
- 50mW laser for high speed measurement on black rubber (absorbing surface)
- Control of profile and runout

scanCONTROL Reference



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