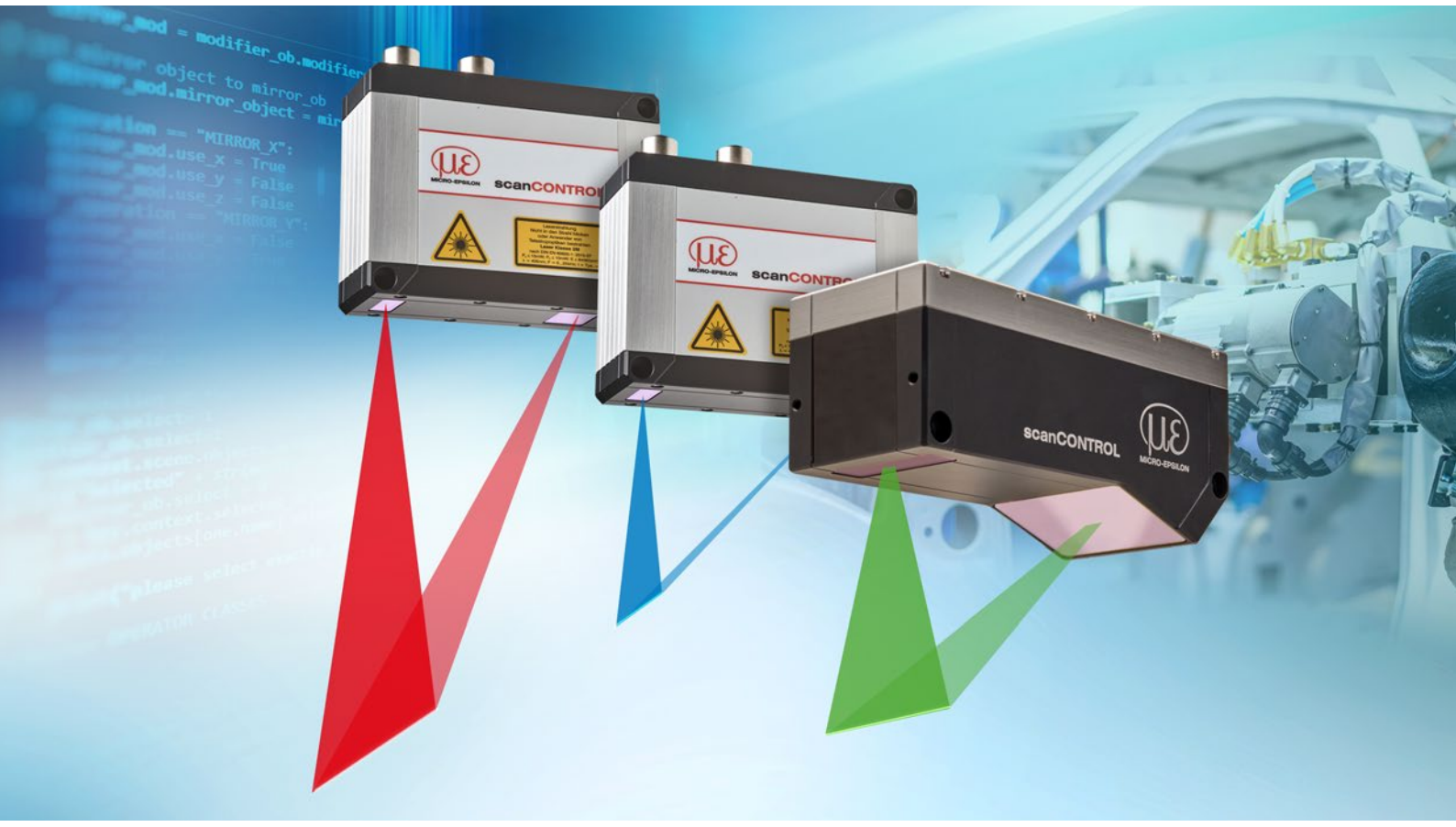
MICRO-EPSILON

More Precision.

scanCONTROL // 2D/3D Laser profile scanners



High-performance 2D/3D laser scanners with maximum precision
scanCONTROL 3000 / 3002

- High resolution in x- and z-axis for accurate profile measurement
- Profile frequency up to 10 kHz for monitoring dynamic processes
- Innovative exposure control
- For small and large measuring ranges
- Also available with patented Blue Laser Technology

Precise 2D/3D profile measurement

The scanCONTROL 30x0 and 30x2 laser profile scanners provide calibrated profile data for demanding measurement and inspection tasks. They capture profiles with high accuracy and reliably measure, for example, angles, steps, gaps, distances, and circles.
With their high profile frequency and versatile application options, the scanners are suitable for static and dynamic applications, automated inspection processes and robotic applications.

Performance levels for different requirements

The scanCONTROL 30x0 series is designed for very high data rates and delivers profile data at up to 9.6 million points per second. The scanCONTROL 30x2 series offers profile frequencies up to 10 kHz, resolutions up to 1,024 points, and data rates up to 7.9 million points per second. Depending on the application, different performance levels are available for precise and fast profile measurements.

Available as PROFILE and SMART versions

The scanCONTROL 30xx series is available in PROFILE and SMART versions. In the PROFILE version, the scanners provide calibrated profile data that can be further processed using the customer's own software.

The SMART scanners work independently and provide selected measurement values. All sensor parameters and the desired measurement programs are set in the scanCONTROL Configuration Tools software and saved directly in the internal controller. With the 3DInspect software, scanCONTROL sensors can also be used for 3D evaluations.

Article designation

LLT	30	xx	-25	/SI

Options – see below

Measuring range
25 mm
50 mm
100 mm
200 mm
430 mm
600 mm

Class
x0 class for demanding measurement tasks
x2 class for industrial measurement and integration tasks
0x = PROFILE
1x = SMART

Model series
LLT30xx

Laser options *

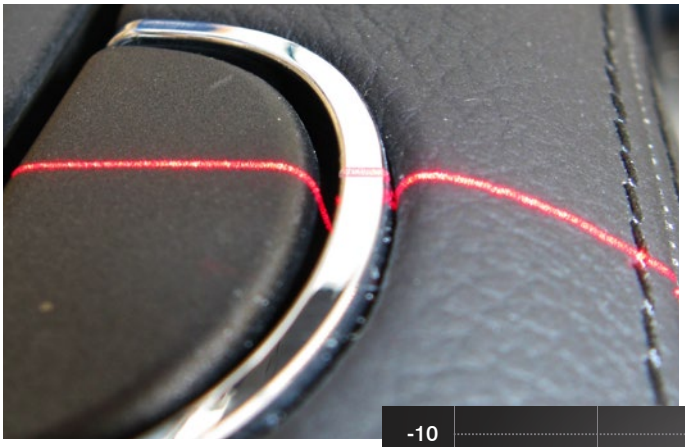
	/SI	Hardware switch-off of the laser line
	/3R	Increased laser power (Class 3R) e.g., for dark surfaces
	/BL	Blue laser line (405 nm) for (semi-)transparent, red-hot glowing and organic materials (Measuring ranges 25–100 mm)

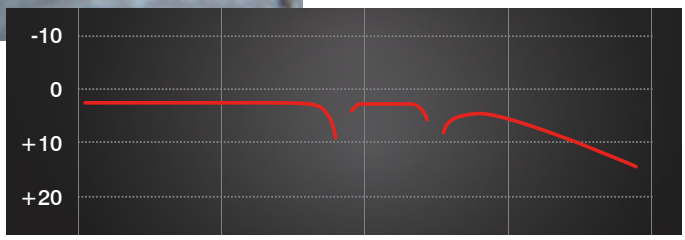
Cable outlet options *

	/RT	Cable outlet on the rear side ("Rear Tail") for space-saving installation, cable length 0.3 m, Sockets at the end of the cable (Measuring ranges 25–200 mm)
	/PT	Cable directly out of the sensor ("Pigtail"). Available lengths: 0.3 / 0.6 / 1.00 m

*Options can be combined

Accessories starting on page 50



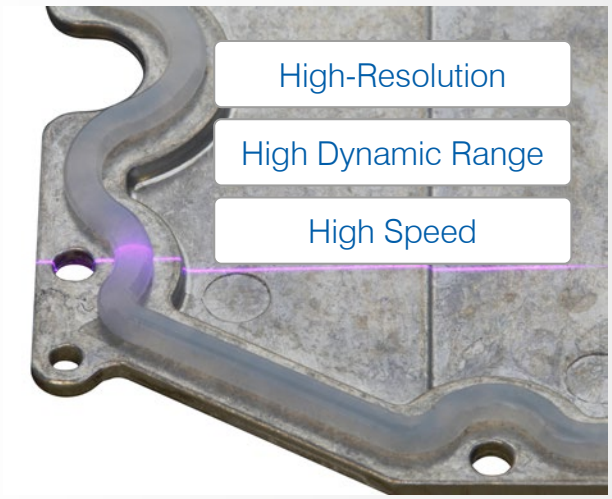


Innovative exposure control to master challenging surfaces
On inhomogeneous or dark surfaces, the HDR (High Dynamic Range) data acquisition mode and improved auto exposure optimize the measurement results.

The different exposures are acquired simultaneously in HDR mode, with no offset between the images. This enables reliable capture of moving objects. The areas for auto exposure can also be selected individually.

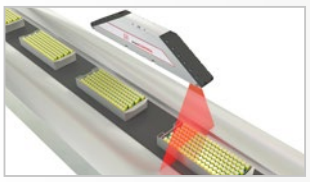
Fast measurement results with operating modes

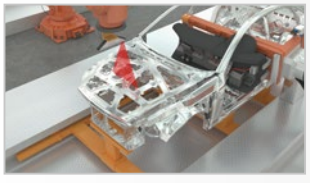
Choose from three predefined operating modes for your specific measurement task: “High-Resolution” for maximum precision, “High Dynamic Range” for optimal profile detection on difficult surfaces and “High Speed” for ultra-fast measurements.



Large measuring field up to 600×600 mm

The scanCONTROL 30xx laser scanners are also available with a large measuring field that covers up to 600 × 600 mm. This enables even large measuring objects to be captured with high accuracy.


Assembly monitoring of battery packs


Assembly monitoring in body-in-white production


Inline 3D inspection of tire geometry

High-performance laser scanner
scanCONTROL 30x0

Model		LLT30x0-25	LLT30x0-50	LLT30x0-100	LLT30x0-200
Measuring range (z-axis)	Start of measuring range	77.5 mm	105 mm	200 mm	200 mm
	Mid of measuring range	85 mm	125 mm	270 mm	310 mm
	End of measuring range	92.5 mm	145 mm	340 mm	420 mm
	Height of measuring range	15 mm	40 mm	140 mm	220 mm
Extended measuring range (z-axis)	Start of measuring range	-	-	190 mm	160 mm
	End of measuring range	-	-	360 mm	460 mm
Linearity (z-axis) [1] [2]		1.5 µm	3 µm	9 µm	26 µm
		±0.01 %	±0.0075 %	±0.006 %	±0.012 %
Measuring range (x-axis)	Start of measuring range	23 mm	43.3 mm	75.6 mm	130 mm
	Mid of measuring range	25 mm	50 mm	100 mm	200 mm
	End of measuring range	26.8 mm	56.5 mm	124.4 mm	270 mm
Extended measuring range (x-axis)	Start of measuring range	-	-	72.1 mm	100 mm
	End of measuring range	-	-	131.1 mm	290 mm
Resolution (x-axis)		2,048 points/profile			
Profile frequency		up to 10,000 Hz			
Interfaces	Ethernet GigE Vision	Output of measurement values Sensor control Profile data transmission			
	Digital inputs	Mode switching Encoder (counter) Trigger			
	RS422 (half-duplex) [3]	Output of measurement values Sensor control Trigger Synchronization			
Output of measurement values [4] [5]		Ethernet (UDP / Modbus TCP); RS422 (ASCII / Modbus RTU) Analog; switch signal PROFINET; EtherCAT; EtherNet/IP			
Control and indicator elements		3x color LEDs for laser, data and error			
Light source	Red Laser	≤ 10 mW			≤ 12 mW
		Standard: laser class 2M, semiconductor laser 658 nm			Option: laser class 3R, semiconductor laser 660 nm
		≤ 30 mW		≤ 50 mW	
		Option: laser class 3R, semiconductor laser 658 nm			
	Blue laser	≤ 10 mW			-
		Standard: laser class 2M, semiconductor laser 405 nm			-
Laser switch-off		via software, hardware switch-off with /SI option			
Aperture angle of laser line		23 °	28 °	30 °	45 °
Permissible extraneous light	(fluorescent light) [1]	10,000 lx			
Protection class (DIN EN 60529)		IP67 (when connected)			
Vibration (DIN EN 60068-2-27)		2g / 20 ... 500 Hz			
Shock (DIN EN 60068-2-6)		15g / 6 ms			
Temperature range	Storage	-20 °C ... +70 °C			
	Operation	0 °C … +45 °C			
Weight		415 g (without cable)			
Supply voltage		11 … 30 VDC, nominal value 24 V, 500 mA, IEEE 802.3af class 2, Power over Ethernet (PoE)			

[1] Based on the measuring range; measuring object: Micro-Epsilon standard object
[2] According to a one-time averaging across the measuring field (2,048 points)
[3] RS422 interface, programmable either as serial interface or as input for triggering/synchronization
[4] Analog | switching signal: Only in conjunction with 2D/3D output unit
[5] PROFINET | EtherCAT | EtherNet/IP: Only in conjunction with 2D/3D gateway

Model		LLT30x0-430	LLT30x0-600
Measuring range (z-axis)	Start of measuring range	330 mm	530 mm
	Mid of measuring range	515 mm	770 mm
	End of measuring range	700 mm	1 010 mm
	Height of measuring range	370 mm	480 mm
Extended measuring range (z-axis)	Start of measuring range	330 mm	450 mm
	End of measuring range	720 mm	1 050 mm
Linearity (z-axis) [1] [2]		12 µm	15 µm
		±0.0032 %	±0.0031 %
Measuring range (x-axis)	Start of measuring range	324 mm	456 mm
	Mid of measuring range	430 mm	600 mm
	End of measuring range	544 mm	762 mm
Extended measuring range (x-axis)	Start of measuring range	324 mm	408 mm
	End of measuring range	560 mm	788 mm
Resolution (x-axis)		2,048 points/profile	
Profile frequency		up to 10,000 Hz	
Interfaces	Ethernet GigE Vision	Output of measurement values Sensor control Profile data transmission	
	Digital inputs	Mode switching Encoder (counter) Trigger	
	RS422 (half-duplex) [3]	Output of measurement values Sensor control Trigger Synchronization	
Output of measurement values [4] [5]		Ethernet (UDP / Modbus TCP); RS422 (ASCII / Modbus RTU) Analog; switch signal PROFINET; EtherCAT; EtherNet/IP	
Control and indicator elements		3x color LEDs for laser, data and error	
Light source	Red Laser	≤ 26 mW	
		Standard: laser class 2M, semiconductor laser 660 nm	
		≤ 100 mW	
		Option: laser class 3B, semiconductor laser 660 nm	
Laser switch-off		via software, hardware switch-off with /SI option	
Aperture angle of laser line		60 °	
Permissible extraneous light	(fluorescent light) [1]	5,000 lx	
Protection class (DIN EN 60529)		IP67 (when connected)	
Vibration (DIN EN 60068-2-27)		2g / 20 ... 500 Hz	
Shock (DIN EN 60068-2-6)		15g / 6 ms	
Temperature range	Storage	-20 °C ... +70 °C	
	Operation	0 °C … +45 °C	
Weight		2630 g (without cable)	
Supply voltage		11 … 30 VDC, nominal value 24 V, 500 mA, IEEE 802.3af class 2, Power over Ethernet (PoE)	

[1] Based on the measuring range; measuring object: Micro-Epsilon standard object
[2] According to a one-time averaging across the measuring field (2,048 points)
[3] RS422 interface, programmable either as serial interface or as input for triggering/synchronization
[4] Analog | switching signal: Only in conjunction with 2D/3D output unit
[5] PROFINET | EtherCAT | EtherNet/IP: Only in conjunction with 2D/3D gateway

High-performance 2D/3D laser scanners
scanCONTROL 30x2

Model		LLT30x2-25	LLT30x2-50	LLT30x2-100	LLT30x2-200
Measuring range (z-axis)	Start of measuring range	77.5 mm	105 mm	200 mm	200 mm
	Mid of measuring range	85 mm	125 mm	270 mm	310 mm
	End of measuring range	92.5 mm	145 mm	340 mm	420 mm
	Height of measuring range	15 mm	40 mm	140 mm	220 mm
Extended measuring range (z-axis)	Start of measuring range	-	-	190 mm	160 mm
	End of measuring range	-	-	360 mm	460 mm
Linearity (z-axis) [1] [2]		2 µm	4 µm	10 µm	30 µm
		±0.013 %	±0.01 %	±0.007 %	±0.014 %
Measuring range (x-axis)	Start of measuring range	23 mm	43.3 mm	75.6 mm	130 mm
	Mid of measuring range	25 mm	50 mm	100 mm	200 mm
	End of measuring range	26.8 mm	56.5 mm	124.4 mm	270 mm
Extended measuring range (x-axis)	Start of measuring range	-	-	72.1 mm	100 mm
	End of measuring range	-	-	131.1 mm	290 mm
Resolution (x-axis)		1,024 points/profile			
Profile frequency		up to 10,000 Hz			
Interfaces	Ethernet GigE Vision	Output of measurement values Sensor control Profile data transmission			
	Digital inputs	Mode switching Encoder (counter) Trigger			
	RS422 (half-duplex) [3]	Output of measurement values Sensor control Trigger Synchronization			
Output of measurement values [4] [5]		Ethernet (UDP / Modbus TCP); RS422 (ASCII / Modbus RTU) Analog; switch signal PROFINET; EtherCAT; EtherNet/IP			
Control and indicator elements		3x color LEDs for laser, data and error			
Light source	Red Laser	≤ 10 mW			≤ 12 mW
		Standard: laser class 2M, semiconductor laser 658 nm			Option: laser class 3R, semiconductor laser 660 nm
		≤ 30 mW		≤ 50 mW	
		Option: laser class 3R, semiconductor laser 658 nm			
	Blue laser	≤ 10 mW			-
		Standard: laser class 2M, semiconductor laser 405 nm			-
Laser switch-off		via software, hardware switch-off with /SI option			
Aperture angle of laser line		23 °	28 °	30 °	45 °
Permissible extraneous light	(fluorescent light) [1]	10,000 lx			
Protection class (DIN EN 60529)		IP67 (when connected)			
Vibration (DIN EN 60068-2-27)		2g / 20 ... 500 Hz			
Shock (DIN EN 60068-2-6)		15g / 6 ms			
Temperature range	Storage	-20 °C ... +70 °C			
	Operation	0 °C … +45 °C			
Weight		415 g (without cable)			
Supply voltage		11 … 30 VDC, nominal value 24 V, 500 mA, IEEE 802.3af class 2, Power over Ethernet (PoE)			

[1] Based on the measuring range; measuring object: Micro-Epsilon standard object
[2] According to a one-time averaging across the measuring field (1,024 points)
[3] RS422 interface, programmable either as serial interface or as input for triggering/synchronization
[4] Analog | switching signal: Only in conjunction with 2D/3D output unit
[5] PROFINET | EtherCAT | EtherNet/IP: Only in conjunction with 2D/3D gateway

Model		LLT30x2-430	LLT30x2-600
Measuring range (z-axis)	Start of measuring range	330 mm	530 mm
	Mid of measuring range	515 mm	770 mm
	End of measuring range	700 mm	1 010 mm
	Height of measuring range	370 mm	480 mm
Extended measuring range (z-axis)	Start of measuring range	330 mm	450 mm
	End of measuring range	720 mm	1 050 mm
Linearity (z-axis) [1] [2]		15 µm	22 µm
		±0.0041 %	±0.0045 %
Measuring range (x-axis)	Start of measuring range	324 mm	456 mm
	Mid of measuring range	430 mm	600 mm
	End of measuring range	544 mm	762 mm
Extended measuring range (x-axis)	Start of measuring range	324 mm	408 mm
	End of measuring range	560 mm	788 mm
Resolution (x-axis)		1,024 points/profile	
Profile frequency		up to 10,000 Hz	
Interfaces	Ethernet GigE Vision	Output of measurement values Sensor control Profile data transmission	
	Digital inputs	Mode switching Encoder (counter) Trigger	
	RS422 (half-duplex) [3]	Output of measurement values Sensor control Trigger Synchronization	
Output of measurement values [4] [5]		Ethernet (UDP / Modbus TCP); RS422 (ASCII / Modbus RTU) Analog; switch signal PROFINET; EtherCAT; EtherNet/IP	
Control and indicator elements		3x color LEDs for laser, data and error	
Light source	Red Laser	≤ 26 mW	
		Standard: laser class 2M, semiconductor laser 660 nm	
		≤ 100 mW	
		Option: laser class 3B, semiconductor laser 660 nm	
Laser switch-off		via software, hardware switch-off with /SI option	
Aperture angle of laser line		60 °	
Permissible extraneous light	(fluorescent light) [1]	5,000 lx	
Protection class (DIN EN 60529)		IP67 (when connected)	
Vibration (DIN EN 60068-2-27)		2g / 20 ... 500 Hz	
Shock (DIN EN 60068-2-6)		15g / 6 ms	
Temperature range	Storage	-20 °C ... +70 °C	
	Operation	0 °C … +45 °C	
Weight		2620 g (without cable)	
Supply voltage		11 … 30 VDC, nominal value 24 V, 500 mA, IEEE 802.3af class 2, Power over Ethernet (PoE)	

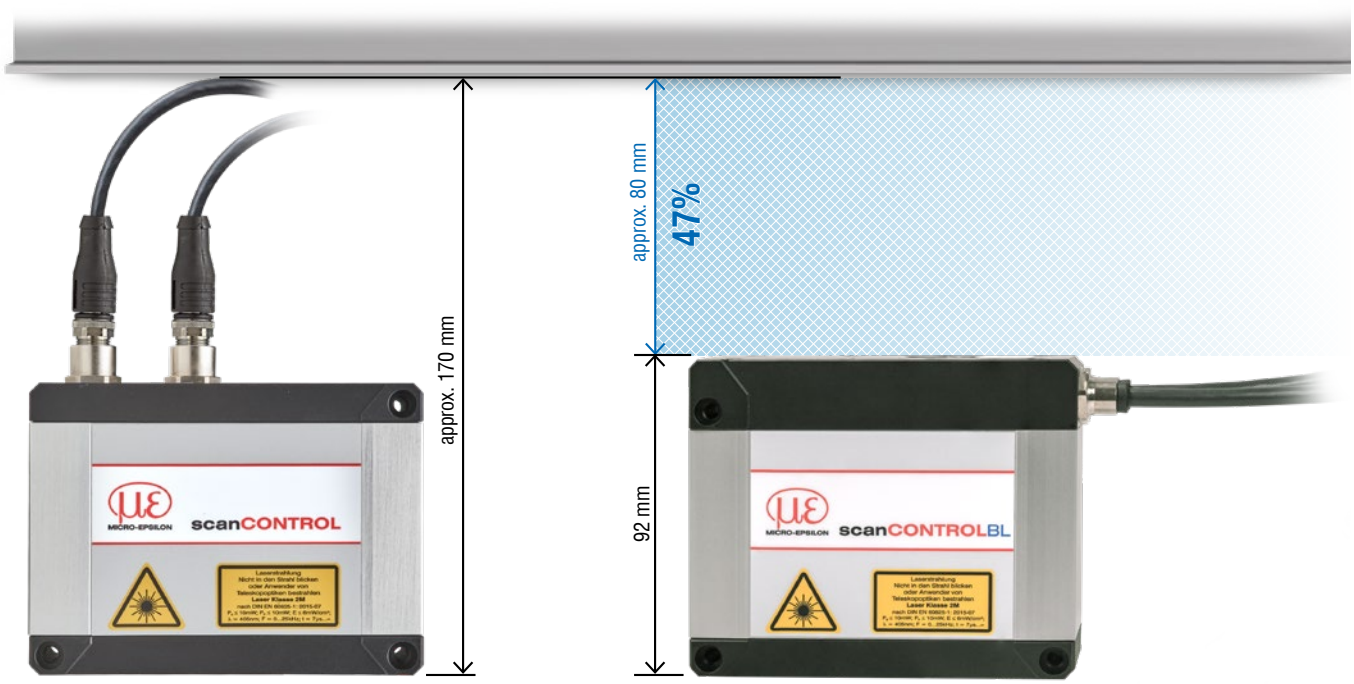
[1] Based on the measuring range; measuring object: Micro-Epsilon standard object
[2] According to a one-time averaging across the measuring field (1,024 points)
[3] RS422 interface, programmable either as serial interface or as input for triggering/synchronization
[4] Analog | switching signal: Only in conjunction with 2D/3D output unit
[5] PROFINET | EtherCAT | EtherNet/IP: Only in conjunction with 2D/3D gateway

Options
scanCONTROL 30xx

Option /RT = “Rear Tail”

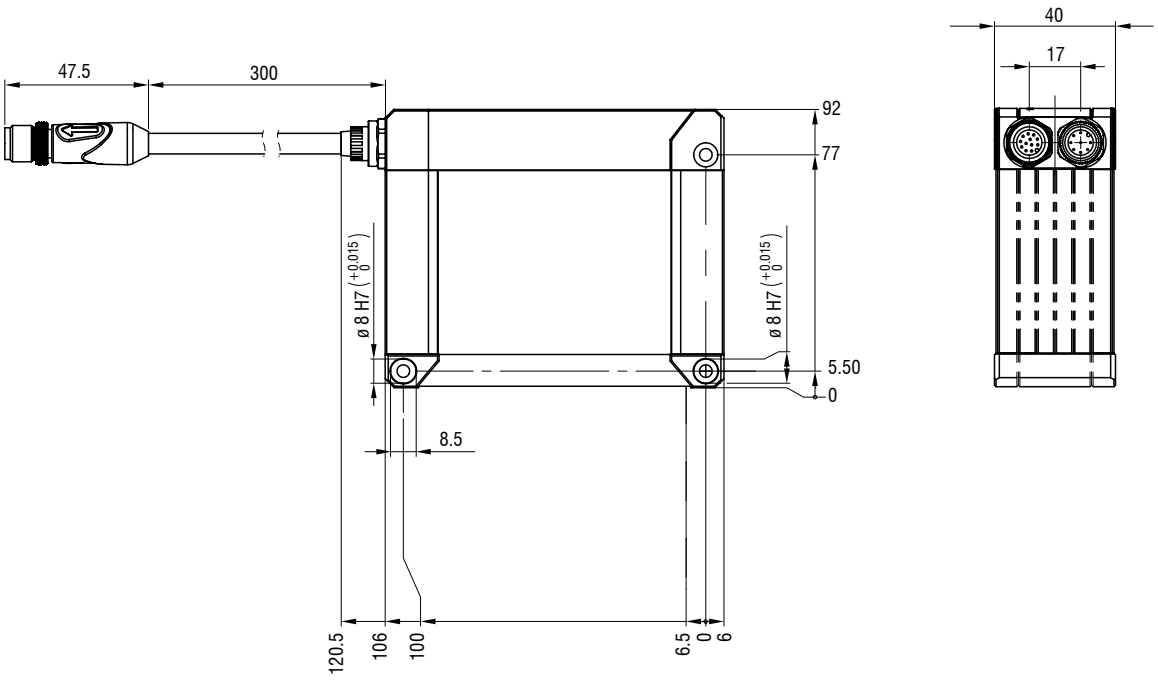
Cable outlet on the rear side (“Rear Tail”) for space-saving installation

- Available for the measuring ranges from 25 mm to 200 mm
- 30 cm pigtail
- Reduces the installation height by 47%



Standard

Option /RT

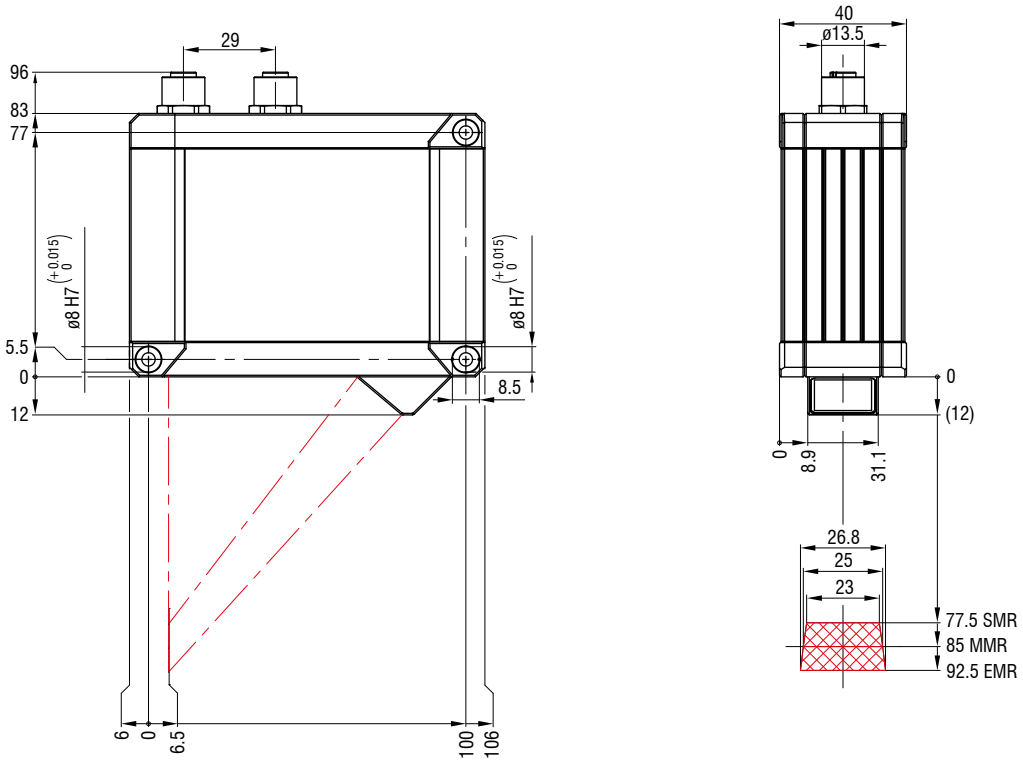


(dimensions in mm, not to scale)

Dimensions and measuring ranges
scanCONTROL 30xx

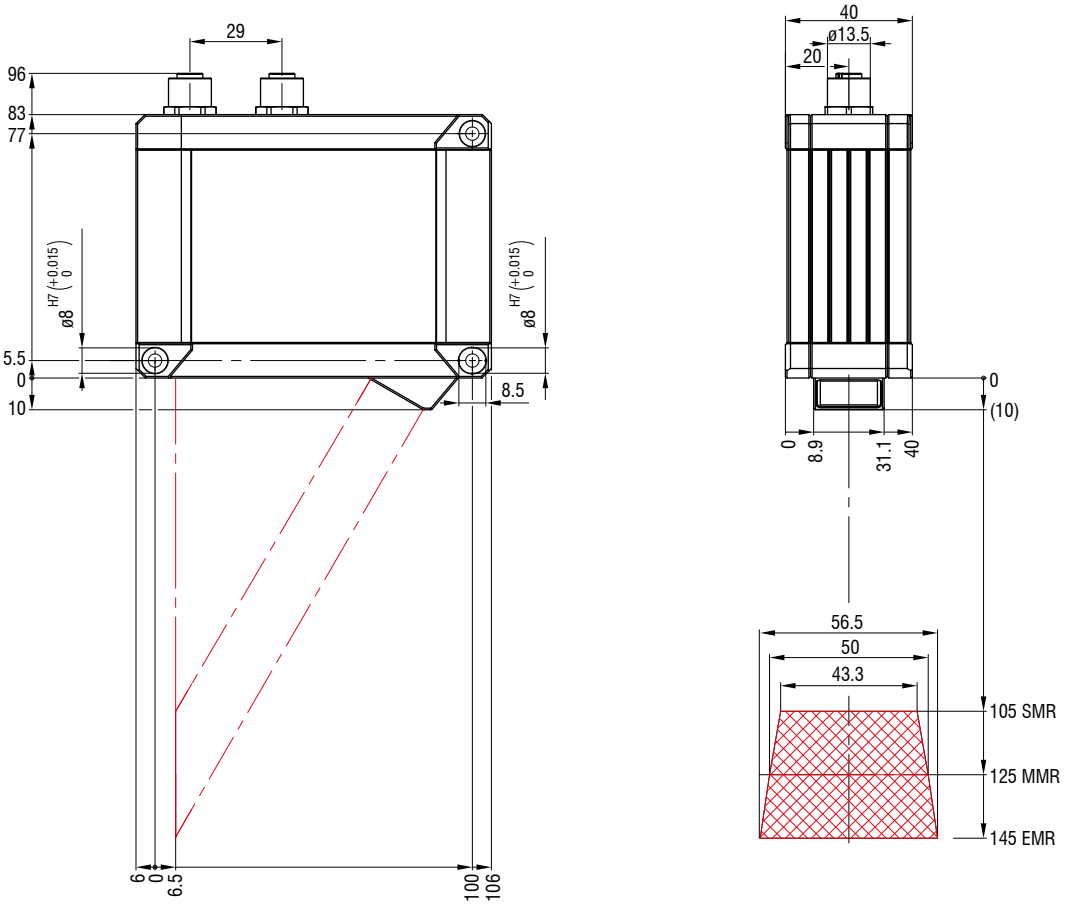
LLT30xx-25

Red Laser | Blue Laser



LLT30xx-50

Red Laser | Blue Laser

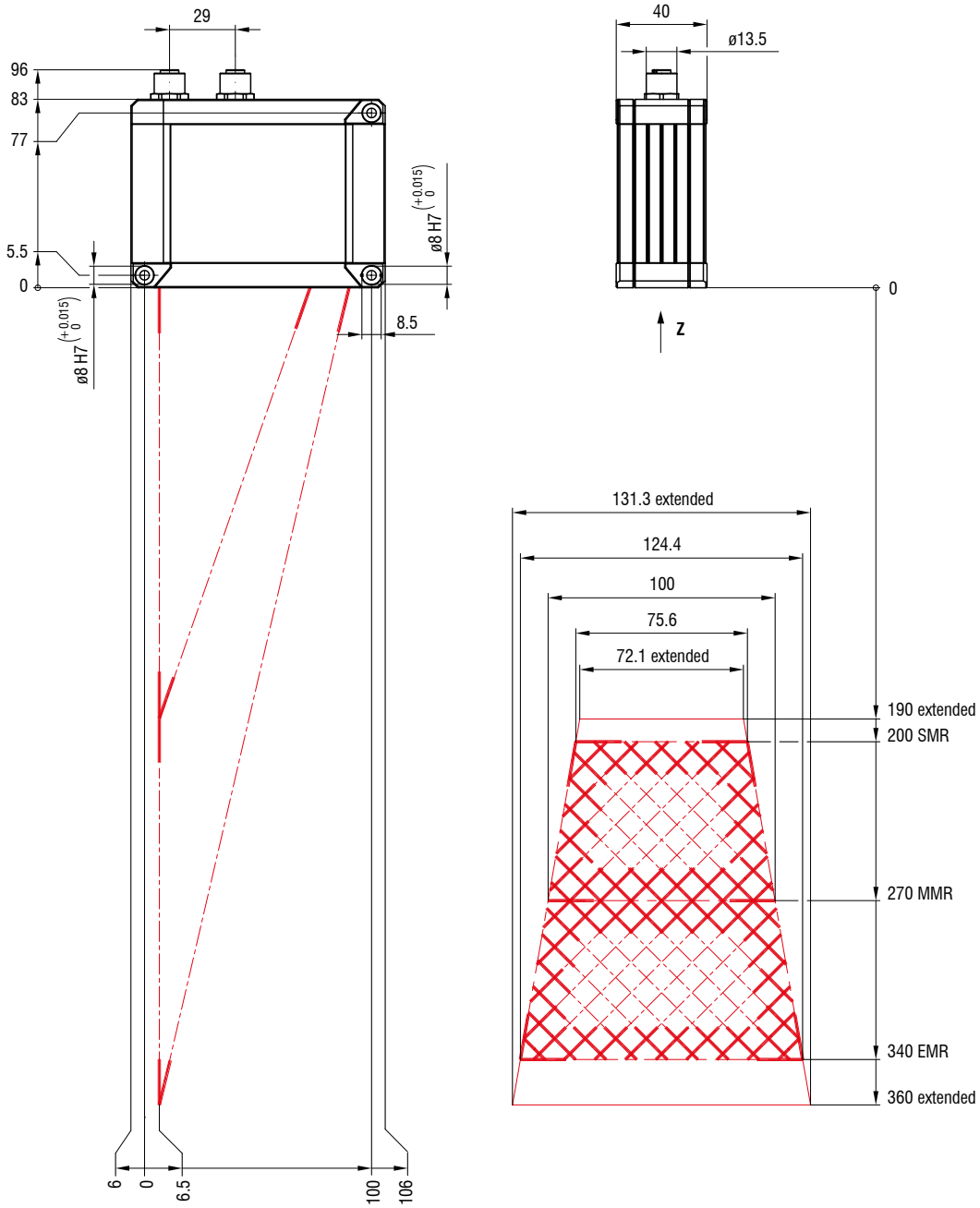


(dimensions in mm, not to scale)

Dimensions and measuring ranges
scanCONTROL 3000 / 3002

LLT30xx-100

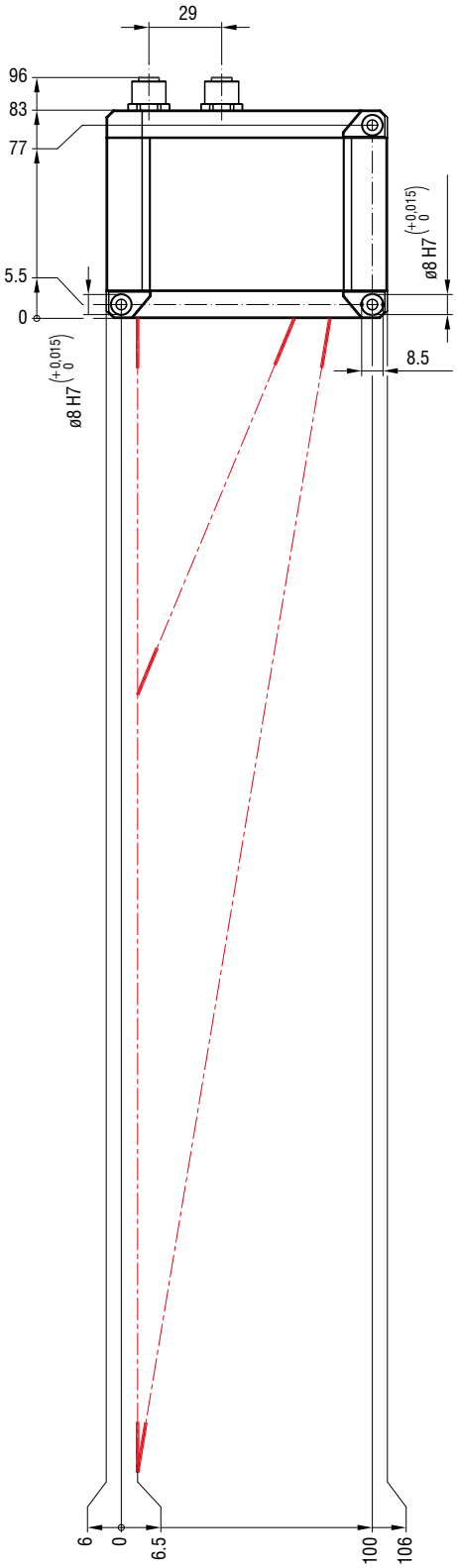
Red Laser | Blue Laser

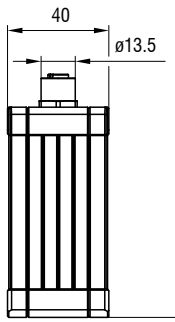


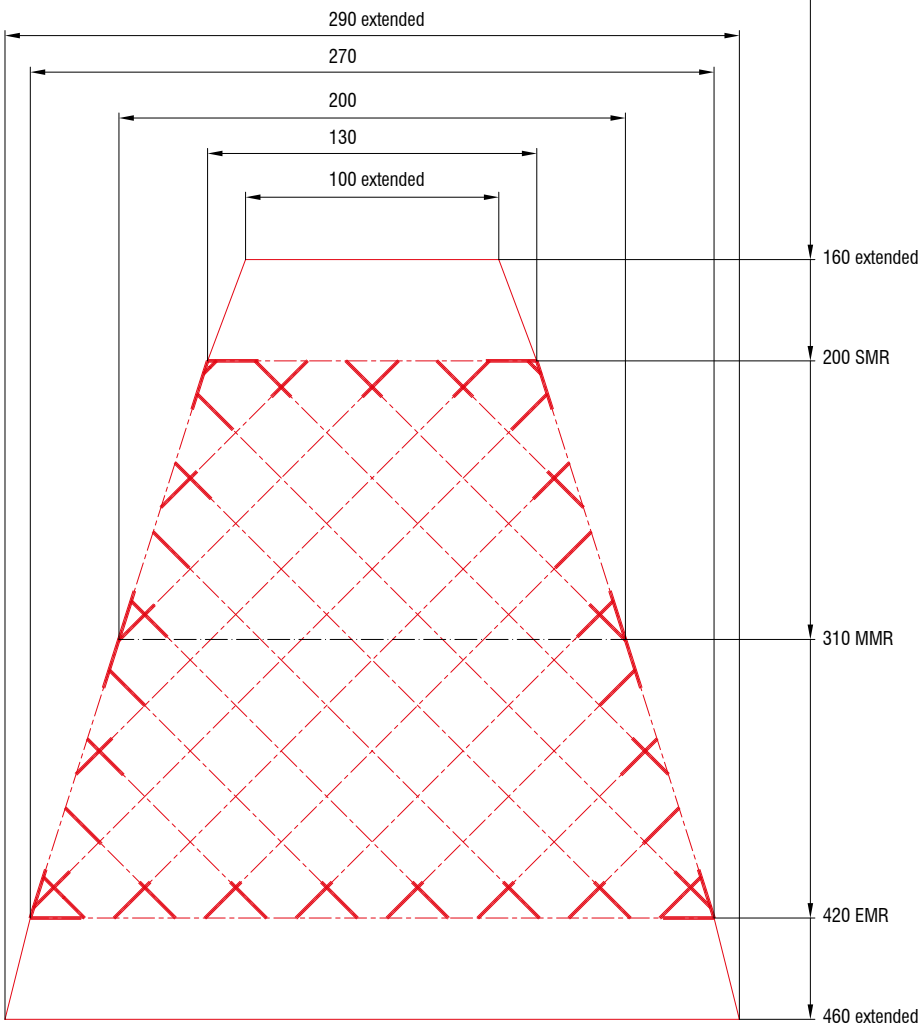
(dimensions in mm, not to scale)

LLT30xx-200

Red Laser





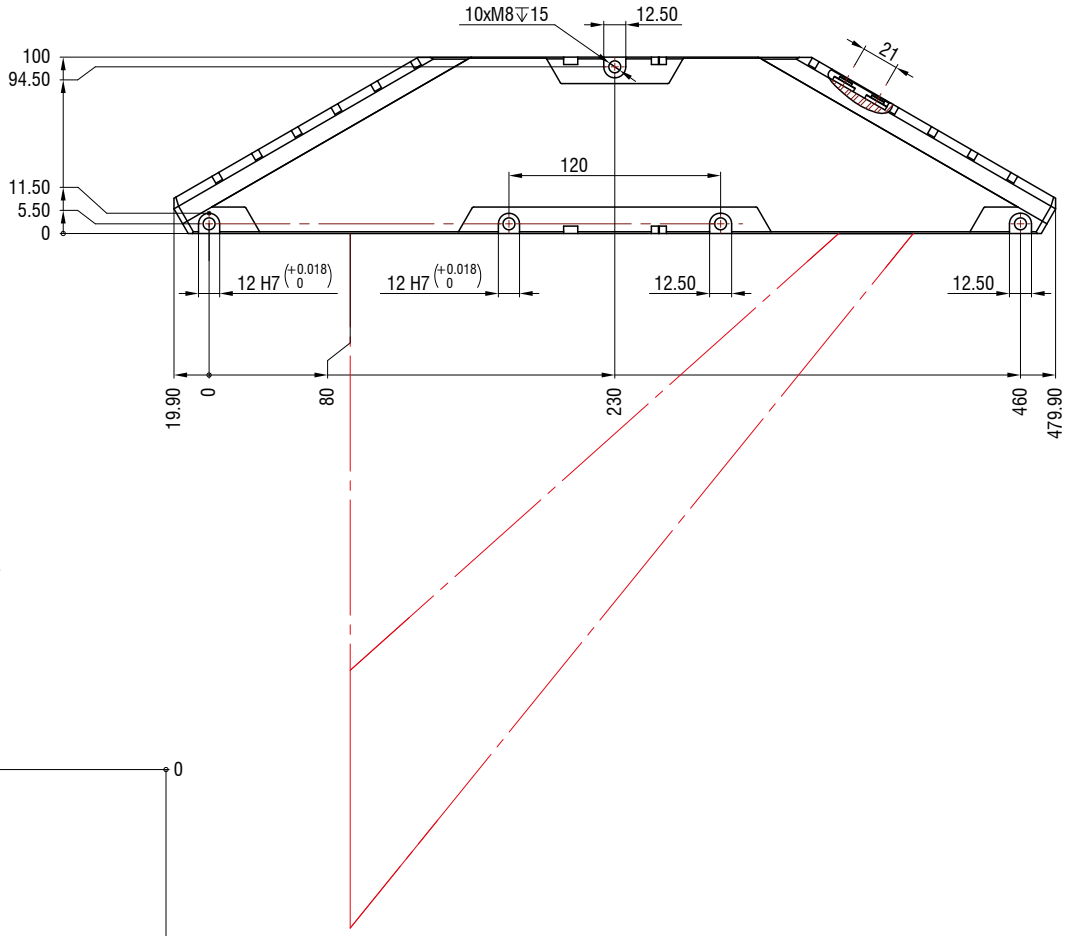


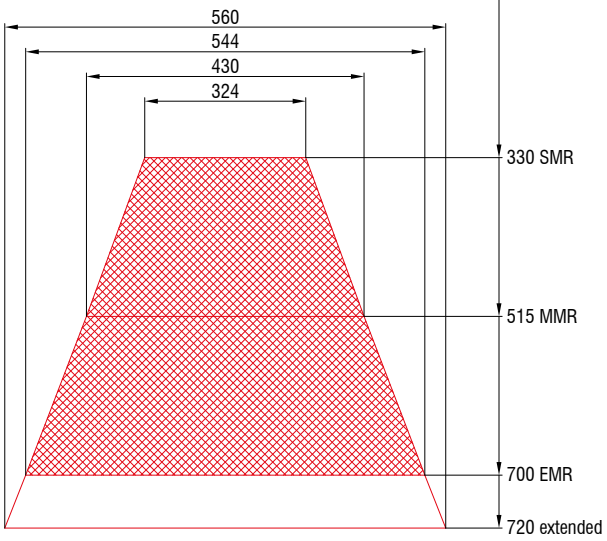
(dimensions in mm, not to scale)

Dimensions and measuring ranges
scanCONTROL 3000 / 3002

LLT30xx-430

Red Laser

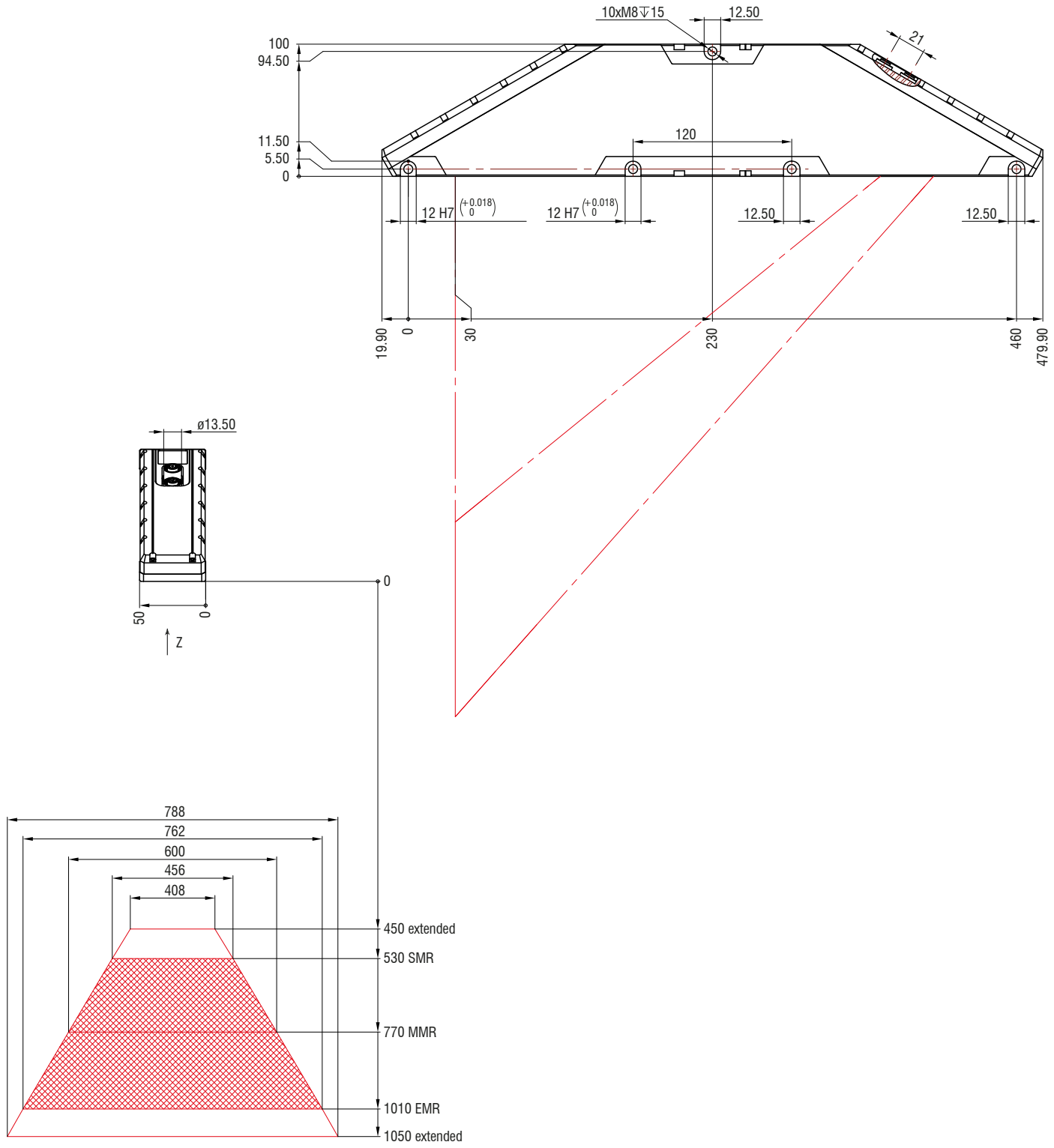




(dimensions in mm, not to scale)

LLT30xx-600

Red Laser



(dimensions in mm, not to scale)

Software for surface inspection and 3D measurement
3DInspect

More information

3DInspect: powerful software for 3D measurement and inspection tasks

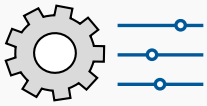
3DInspect is powerful software for industrial measurement and inspection tasks. The 3D measurement data generated by the sensor are processed, evaluated, and automatically assessed in the software based on defined criteria. Measurement results can be visualized, logged and, if required, output directly to a machine or line PLC. In addition, both the measurement results and the complete 3D data can be saved for documentation and later analysis.

Fast & intuitive path to a high-precision 3D solution

The 3D sensors are parameterized directly in 3DInspect. This enables quick configuration of the optimal sensor settings for the specific measurement task. The captured 3D data are preprocessed and optimized. For example, the part position is aligned automatically to enable repeatable evaluation of the point cloud independent of the workpiece orientation. In addition, functions are available for filtering, smoothing, cropping, creating cross-sections, and highlighting relevant features.

3DInspect offers over 80 powerful measurement programs for data evaluation. This enables reliable localization and measurement of features such as edges, spheres, or bores. In addition to evaluating the complete 3D data, cross-sections can also be evaluated. All 2D and 3D objects can be related to one another to determine, for example, distances between a sphere and a plane or the angle between two edges. All determined values and performed evaluations can be output as measurement results.

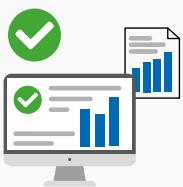
End-to-end workflow from parameterization to output



Parameterization
- Optimal sensor parameters for the application
- Save and reuse parameter sets
- Select measuring ranges

Data preprocessing
- Align and position the point cloud
- Set filters and cross-sections
- Highlight features, remove interference

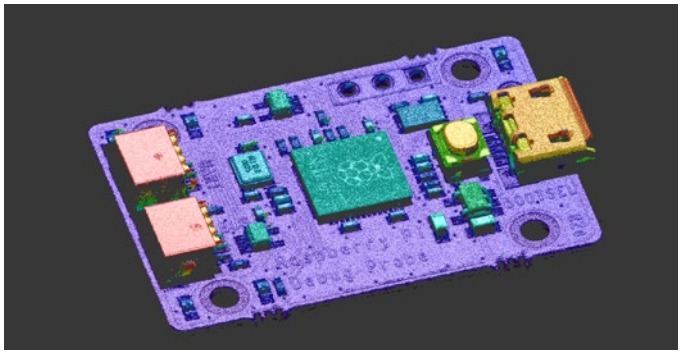
Data evaluation
- Over 80 measurement programs
- Combination of multiple programs
- Evaluation of cross-sections or 3D areas



Evaluation & output
- Evaluation of results (OK/NOK)
- Output via digital outputs, fieldbus or Ethernet
- Logging and export of measurement values and 3D data

3DInspect with scanCONTROL

The 3DInspect software supports the scanCONTROL 30xx and scanCONTROL 8x00 models. The scanCONTROL 8x00 series can execute 3DInspect evaluation programs directly on the sensor. The scanCONTROL sensors of the 30xx series require an external computing unit for this.



All benefits at a glance

- User-friendly interface – easy creation of measurement programs
- Inline operation – stand-alone operation of the measurement programs directly on the SMART sensors
- Wide range of predefined programs for 2D & 3D geometry measurements and surface inspection
- Logging and storage of 3D data directly in the software
- Valid3D – Real 3D instead of only 2.5D enables a true representation of the measuring object without data loss
- Parameterization of fieldbus integration via the automation interface

Functional extensions

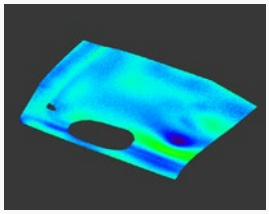
Optional functional extensions allow the functionality to be tailored specifically to the application. The following functional extensions are available for scanCONTROL:

Functional extension: Automation

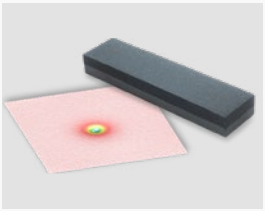
The *Automation* extension enables the base software to be controlled via the PLC. Data and measurement results can be exchanged bidirectionally between the software and the control system. For the scanCONTROL 8x00 models, the SMART Automation license already includes the Automation functional extension.

Functional extension: Surface inspection

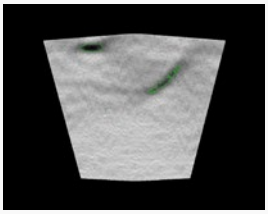
The *Surface inspection* extension enables reliable detection of deviations from a homogeneous surface. Tools such as Digital Stone, Digital Master, and defect detection with sorting and counting options are available from 3DInspect 3.1 onwards.



Digital Master:
Objective target/actual comparison with good parts (including variance taken into account)

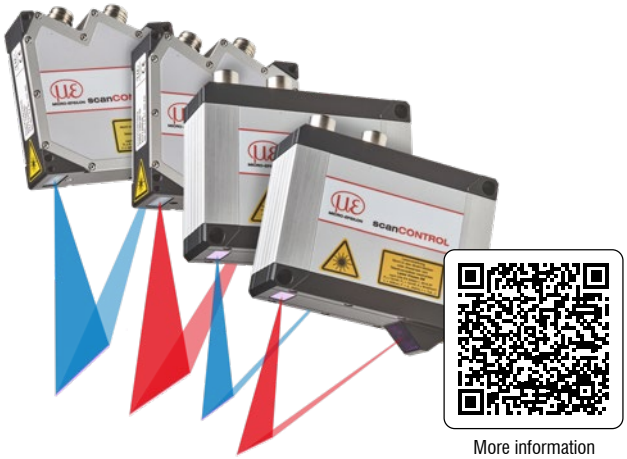


Digital Stone:
Simulates a physical whetstone. High precision with high repeatability



Defect detection with sorting and counting function:
Automatic defect detection and height evaluation

Connectivity options
scanCONTROL 2xx0 / 30xx



More information

Flexible solutions for measurement values or profile data

Depending on the variant, the 2xx0/30xx models provide a direct path to the output of measurement values or flexible integration of profile data.

SMART

Fast and intuitive path to a precise 2D solution

PROFILE

Performance with maximum integration flexibility

Direct output of measurement values

For PLCs and automation

- Transfer measurement values directly to the PLC
- Sensor control via standard protocols
- OK/NOK result evaluation and output via digital outputs or fieldbus

Recommended tools

Configuration Tools, scanCONTROL Modbus Tool, UDP Tool, Result Monitor

EtherCAT, EtherNet/IP, PROFINET, Modbus, UDP

Integration into image processing

For vision systems and software

- Standardized interfaces: GenICam / GigE Vision
- Direct connection to compatible vision software
- Output of profile or 3D data depending on the sensor series

Compatible interfaces & software

COGNEX VisionPro, HALCON a product of MVTec, GENICAM, GiGE VISION

Integration into customer software

For developers and OEMs

- SDKs and LLT.DLL for C/C++ or C#/.NET
- LabVIEW drivers and example programs
- Developer Tool with sample code
- Documentation and support

Supported environments

scanCONTROL SDK, Developer Tool

C/C++, C#/.NET, Linux, LabVIEW, python

For custom workflows, advanced integrations or special requirements, we will be happy to help you select the right solution.

Connection options
scanCONTROL

LLT8x00

Supply and output cable (see accessories)

SMART

3D DATA

3D DATA

LLT30xx

Supply and output cable (see accessories)

SMART

2D/3D Gateway

SMART

PROFILE

Industrial Performance Unit (IPU)

SMART

PROFILE

PROFILE

LLT2xx0

Supply and output cable (see accessories)

SMART

2D/3D Gateway

SMART

PROFILE

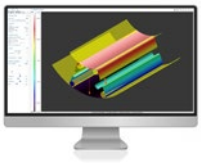
PROFINET, EtherCAT, EtherNet/IP, Modbus TCP, UDP

PLC

GigE Vision

3DInspect

GigE Vision



Third-party software

PROFINET, EtherCAT, EtherNet/IP

Modbus TCP, UDP

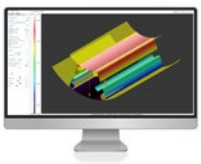
PROFINET, EtherNet/IP, EtherCAT, Modbus TCP

PLC

GigE Vision

3DInspect

GigE Vision



Third-party software

PROFINET, EtherCAT, EtherNet/IP

Modbus TCP, UDP

PLC

GigE Vision

Third-party software

System for multi-scanner applications
3D Profile Unit

More information

- Profile stitching of up to 8 laser scanners
- Integration in GigE Vision as raw data supplier
- Industrial Ethernet connection for control and transfer of measurement values
- Evaluation of composite 2D sections or 3D point clouds
- Automatic registration thanks to Micro-Epsilon registration targets
- Compatible with all scanCONTROL 30xx sensors

SMART PROFILE 3D DATA

PROFINET EtherCAT EtherNet/IP Modbus

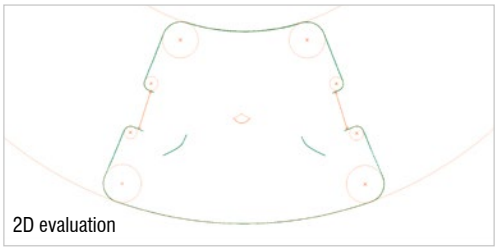
The 3D Profile Unit (3DPU) is a high-performance computing platform for profile stitching and the calculation of up to eight individual profiles from scanCONTROL 30xx sensors in a common coordinate system. This enables the generation of composite 2D profiles or 3D point clouds to capture different geometries, extend measuring ranges, or perform thickness measurements. The sensors are assigned via registration, which is performed either automatically using an arrangement-specific Micro-Epsilon registration target or manually.

The system can be parameterized and the acquired data evaluated using 3DInspect. The 3D Profile Unit controller in the 3DPU-X/IE version also features integrated 3D evaluation with result output via Industrial Ethernet, enabling the application to be controlled and measurement values to be transferred to a PLC. The industrial-grade, passively cooled hardware enables flexible, space-saving integration into a control cabinet or directly into the machine. An external PC can be easily connected for parameterization.

Stitching

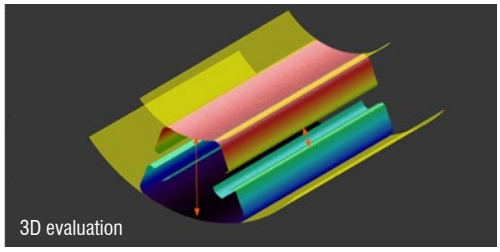
The 3D Profile Unit calculates the profiles from multiple scanCONTROL sensors in a common coordinate system.

3D view of stitched profile sequences

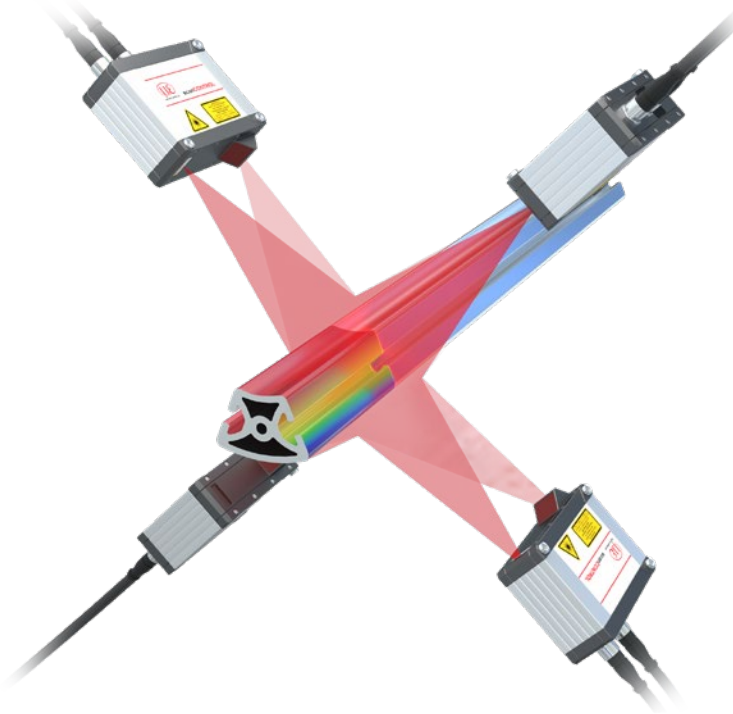


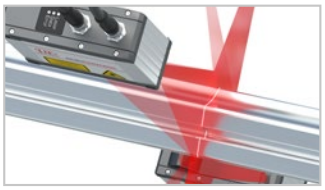
2D evaluation

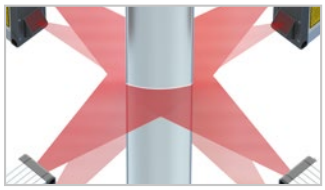
Composite profiles:



3D evaluation





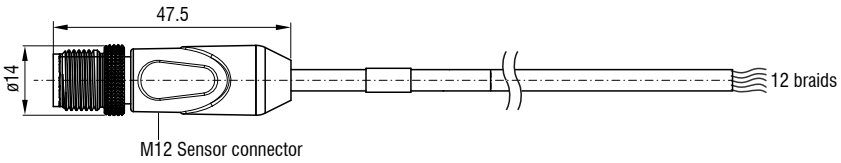


Connection cables

For LLT30xx / LLT29x0 / LLT25x0

Multifunction cable PCR3000-x

Cable for power supply, digital inputs (TTL or HTL), RS422 (half-duplex);
suitable for drag chains and robots
Cable length in meters: 2 / 5 / 10 / 15 / 20 / 25 / 35

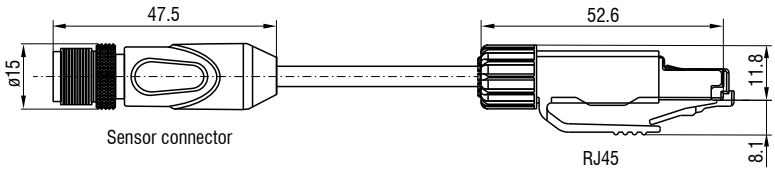


Article no.	Model
29011241	PCR3000-2
29011242	PCR3000-5
29011243	PCR3000-10
29011244	PCR3000-15

Article no.	Model
29011245	PCR3000-20
29011246	PCR3000-25
29011247	PCR3000-35

Ethernet connection cable SCR3000A-x

Cable for parameter setting, measurement value and profile transmission; suitable for drag chains and robots
Cable length in meters: 0,5 / 2 / 5 / 10 / 15 / 20 / 25 / 35



Article no.	Model
29011232	SCR3000A-0.5
29011233	SCR3000A-2
29011234	SCR3000A-5
29011235	SCR3000A-10

Article no.	Model
29011236	SCR3000A-15
29011237	SCR3000A-20
29011238	SCR3000A-25
29011240	SCR3000A-35

Other accessories

Article no.	Model	Description
0323478	Connector/12-pin/Multifunction for scanCONTROL series 25/29/30	Connector for multifunction port
0323479	Connector/8-pin/Ethernet for scanCONTROL series 25/29/30	Connector for Ethernet socket
2420067	PS25/29/30	Power supply unit for scanCONTROL
2960118.01	LLT30xx adjustment bracket	Mounting bracket for LLT30xx for precise laser line alignment

Accessories
scanCONTROL

Interface modules

(Except scanCONTROL 8x00 models)

2D/3D Gateway

PROFINET / EtherCAT / EtherNet/IP for all scanners in the SMART class

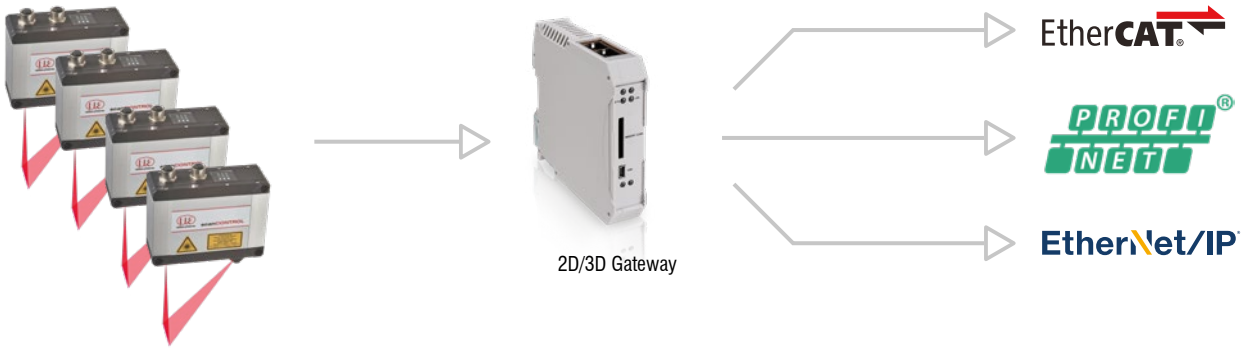
Up to four sensors can be connected to a single 2D/3D Gateway. When using more than one sensor, a switch is required. The 2D/3D Gateway communicates with the scanCONTROL SMART sensor via Modbus TCP and converts the resultant values to PROFINET, EtherCAT or EtherNet/IP. The customer carries out the parameterization using the detailed instruction manual. The gateway can optionally be preconfigured at the factory.

Model overview

6414142	2D/3D Gateway	Fieldbus coupler, configurable for PROFINET, EtherNet/IP and EtherCAT
6414142.001	2D/3D Gateway, preconfigured	Preconfigured for the customer's protocol and IP addresses

Number of sensors at the gateway	Maximum measuring rate*
1	500 Hz
2	500 Hz
3	330 Hz
4	250 Hz

For 30xx series sensors, the Modbus bundling option also enables higher measuring rates.



2D/3D Output Unit

Analog signals / digital switch signals for all scanners in the SMART class

The 2D/3D Output Unit is addressed via Modbus TCP and outputs analog and digital signals.
Various output terminals can be connected to the fieldbus coupler.

Model overview

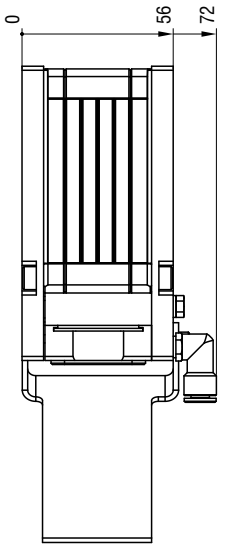
6414073	2D/3D Output Unit Basic/ET	Fieldbus coupler with filter module and bus end terminal
0325131	OU-DigitalOut/8-channel/DC24V/0.5 A/negative	8-channel digital output terminal; DC 24 V; 0.5 A; negative switching
0325115	OU-DigitalOut/8-channel/DC24V/0.5 A/positive	8-channel digital output terminal; DC 24 V; 0.5 A; positive switching
0325116	OU-AnalogOut/4-channel/±10 V	4-channel analog output terminal; ±10 V
0325135	OU-AnalogOut/4-channel/0-10 V	4-channel analog output terminal; 0–10 V
0325132	OU-AnalogOut/4-channel/0-20 mA	4-channel analog output terminal; 0–20 mA
0325133	OU-AnalogOut/4-channel/4-20 mA	4-channel analog output terminal; 4–20 mA

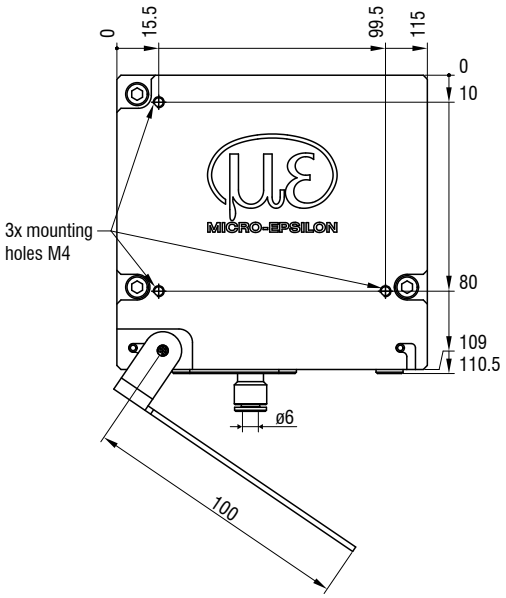
Additional terminals available on request.

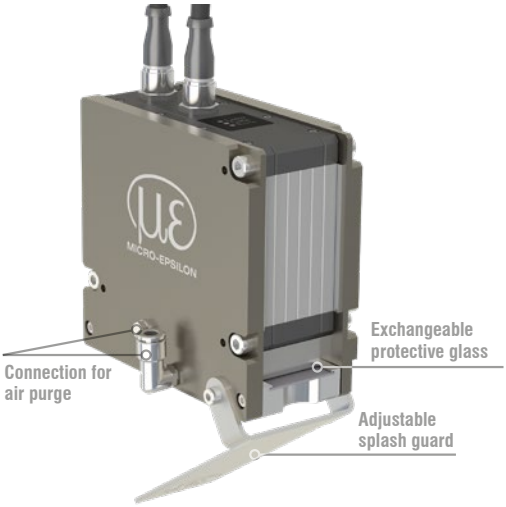
Protection and cooling housings for LLT30xx

for the measuring ranges 25–200 mm

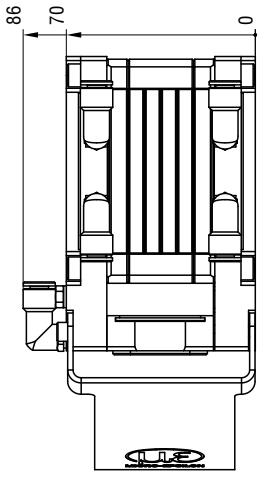
Protective housing with blow-out system

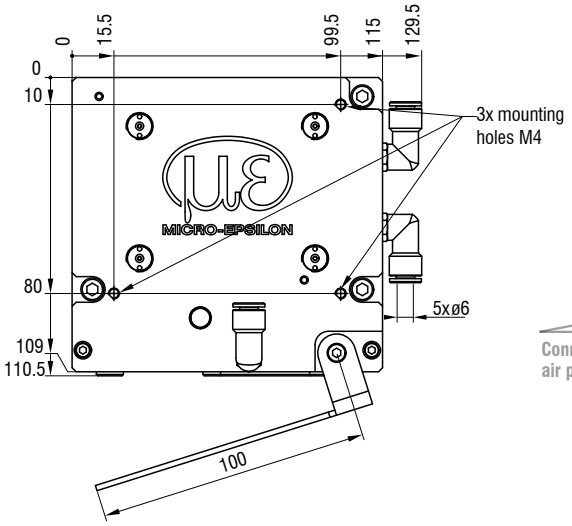


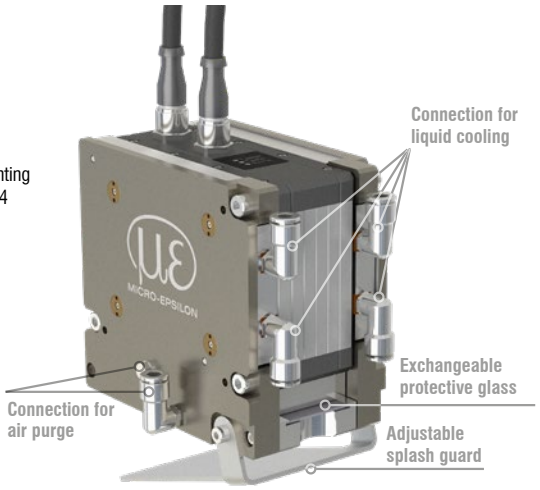




Protective housing with blow-out system and water cooling





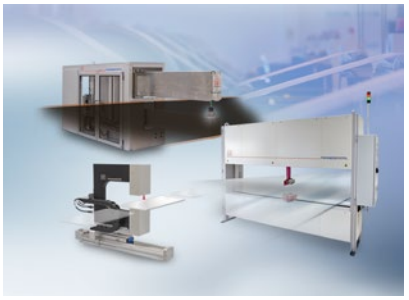


Article no.	Model	Description
2105076	Protective housing for LLT30	Adaptive protective housing for LLT30
2105077	Protective cooling housing for LLT30	Adaptive protective and cooling housing for LLT30
0755083	Exchangeable glass for protective housing LLT30	Exchangeable glass for protection / cooling concept LLT30, pack of 30 pieces

Sensors and Systems from Micro-Epsilon

Sensors and systems for displacement, distance and position

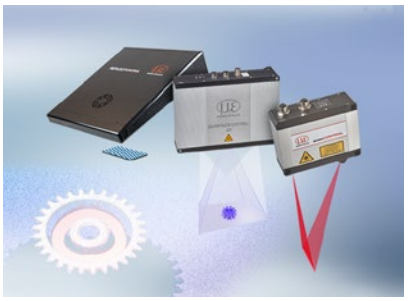
Sensors and measurement devices for non-contact temperature measurement



Measuring and inspection systems for metal strips, plastics and rubber

Optical micrometers and fiber optics, measuring and test amplifiers

Color recognition sensors, LED analyzers and inline color spectrometers



3D measurement technology for dimensional testing and surface inspection

MICRO-EPSILON

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