MICRO-EPSILON

More Precision

scanCONTROL // 2D/3D Laser profile sensors

Powerful 2D/3D laser scanners
scanCONTROL 30x2

- Precise profile measurements for industrial measurement tasks
- Resolution (x-axis) 1,024 points
- Profile frequency up to 10,000 Hz
- For small and large measuring ranges
- Also available with patented Blue Laser Technology
- Compatible with COGNEX® VisionPro

Precise 2D/3D profile measurements

The new LLT30x2 laser profile scanners provide calibrated profile data with up to 7.9 million points per second. They allow profile frequencies up to 10 kHz and resolutions up to 1,024 points. Thanks to their high accuracy and versatility, the scanners are particularly suitable for static and dynamic applications as well as robotic applications. They measure and evaluate, e. g., angles, steps, gaps, distances, and circles.

Available as PROFILE and SMART versions

The scanCONTROL 30x2 series is available as PROFILE and SMART versions. The PROFILE scanners provide calibrated profile data that can be further processed on a PC with software evaluation provided by the customer. The 3DInspect software allows for the scanCONTROL sensors to be used also for 3D evaluations.

SMART scanners operate autonomously and provide selected measurement values. The scanCONTROL 30x2 series supports all SMART functions and programs that are set in the scanCONTROL Configuration Tools software and directly stored in the internal controller.

Article designation

LLT	30	x2	-25	/SI

Options - see below

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

Class
02 = PROFILE
12 = SMART

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 cable end (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 from page 42

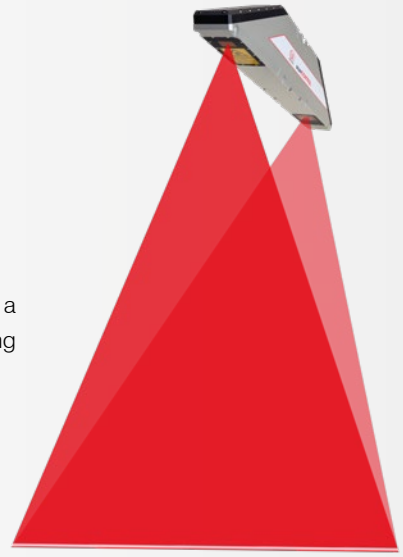
The easy way of machine integration

The design of the LLT30x2 series is compact and lightweight. The controller is integrated in the sensor itself, which simplifies mechanical integration. The measurement data can be output directly.

NEW

Large measurement area up to 600 x 600 mm

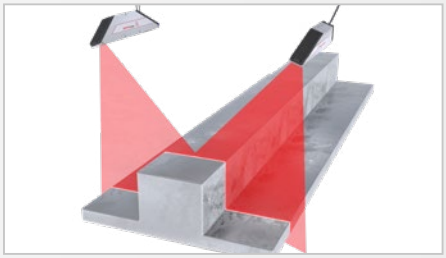
The scanCONTROL 30x2 laser scanners are now also available with a large measuring field up to 600 x 600 mm. This allows large measuring objects to be detected with high accuracy.



Application examples

Assembly monitoring of car body shell construction

Detection of the road surface profile



Geometry inspection in metals processing

Powerful 2D/3D laser scanners
scanCONTROL 30x2

	Model		LLT 30x2-25	LLT 30x2-50	LLT 30x2-100	LLT 30x2-200
	Available laser type		Red Laser Blue Laser	Red Laser Blue Laser	Red Laser Blue Laser	Red Laser
z-axis	Measuring range	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	Start of measuring range	-	-	190 mm	160 mm
		End of measuring range	-	-	360 mm	460 mm
	Line linearity [1) 2)]		2 µm ±0.013 %	4 µm ±0.01 %	10 µm ±0.007 %	30 µm ±0.014 %
x-axis	Measuring range	Start of measuring range	23.0 mm	43.3 mm	75.6 mm	130 mm
		Mid of measuring range	25.0 mm	50.0 mm	100 mm	200 mm
		End of measuring range	26.8 mm	56.5 mm	124.4 mm	270 mm
	Extended measuring range	Start of measuring range	-	-	72.1 mm	100 mm
		End of measuring range	-	-	131.1 mm	290 mm
	Resolution		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		Ethernet (UDP / Modbus TCP); RS422 (ASCII / Modbus RTU) analog [4)]; switch signal [4)] PROFINET [5)]; EtherCAT [5)]; EtherNet/IP [5)]			
	Control and display 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			
			≤ 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 ambient light	(fluorescent light) [1)]	10,000 lx			
	Protection class (DIN EN 60529)		IP67 (when connected)			
	Vibration (DIN EN 60068-2-27)		2 g / 20 … 500 Hz			
	Shock (DIN EN 60068-2-6)		15 g / 6 ms			
	Temperature range	Storage	-20 … +70 °C			
		Operation	0 … +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 over the measuring field (1,024 points)
[3)] RS422 interface, programmable either as serial interface or as input for triggering/synchronization
[4)] Only with 2D/3D Output Unit
[5)] Only with 2D/3D Gateway

	Model		LLT 30x2-430	LLT 30x2-600
	Available laser type		Red Laser	Red Laser
z-axis	Measuring range	Start of measuring range	330 mm	530 mm
		Mid of measuring range	515 mm	770 mm
		End of measuring range	700 mm	1010 mm
		Height of measuring range	370 mm	480 mm
	Extended measuring range	Start of measuring range	330 mm	450 mm
		End of measuring range	720 mm	1050 mm
	Line linearity [1) 2)]		15 µm	22 µm
			±0.0041 %	±0.0045 %
x-axis	Measuring range	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	Start of measuring range	324 mm	408 mm
		End of measuring range	560 mm	788 mm
	Resolution		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		Ethernet (UDP / Modbus TCP); RS422 (ASCII / Modbus RTU) analog [4)]; switch signal [4)] PROFINET [5)]; EtherCAT [5)]; EtherNet/IP [5)]	
	Control and display 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 3R, semiconductor laser 660 nm	
		Laser switch-off	via software, hardware switch-off with /SI option	
	Aperture angle of laser line		60 °	
	Permissible ambient light	(fluorescent light) [1)]	5,000 lx	
	Protection class (DIN EN 60529)		IP67 (when connected)	
	Vibration (DIN EN 60068-2-27)		2 g / 20 … 500 Hz	
	Shock (DIN EN 60068-2-6)		15 g / 6 ms	
	Temperature range	Storage	-20 … +70 °C	
		Operation	0 … +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)	
	Connections		Sockets, cable outlets on top (/PT)	

[1)] Based on the measuring range; measuring object: Micro-Epsilon standard object
[2)] According to a one-time averaging over the measuring field (1,024 points)
[3)] RS422 interface, programmable either as serial interface or as input for triggering/synchronization
[4)] Only with 2D/3D Output Unit
[5)] Only with 2D/3D Gateway

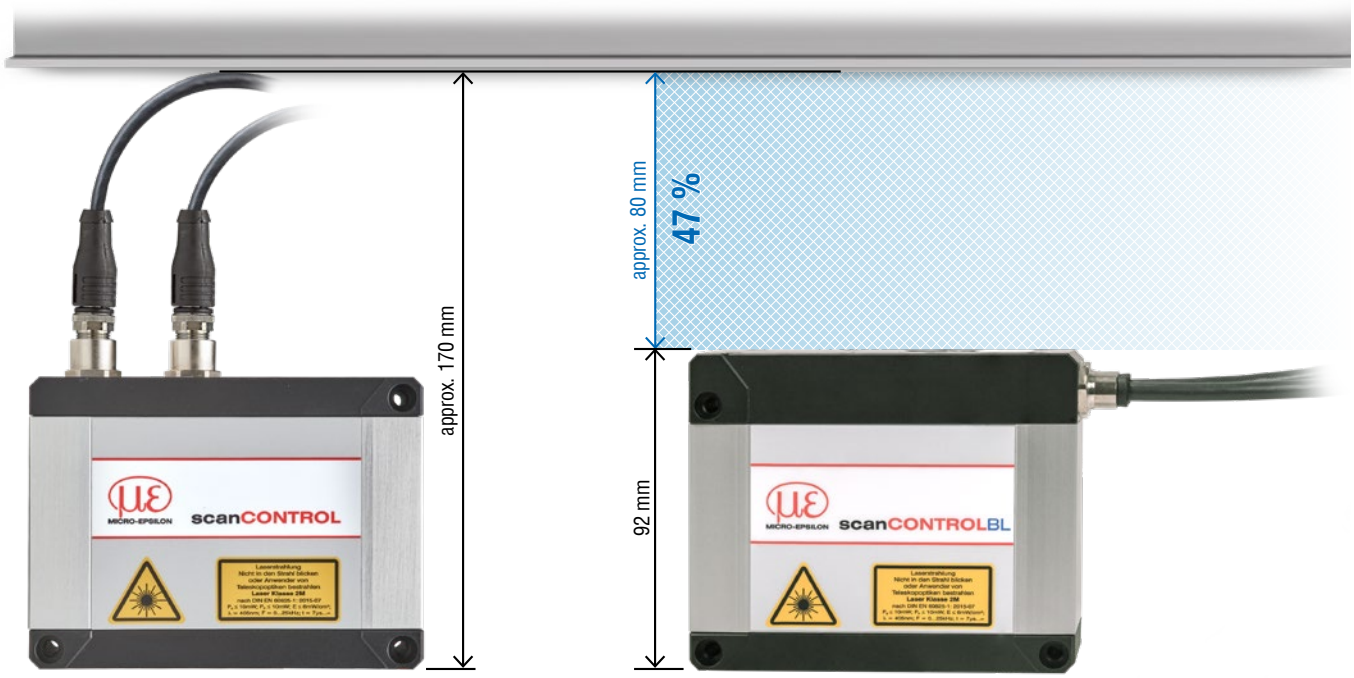
Options
scanCONTROL 30xx

NEW

Option /RT = "Rear Tail"

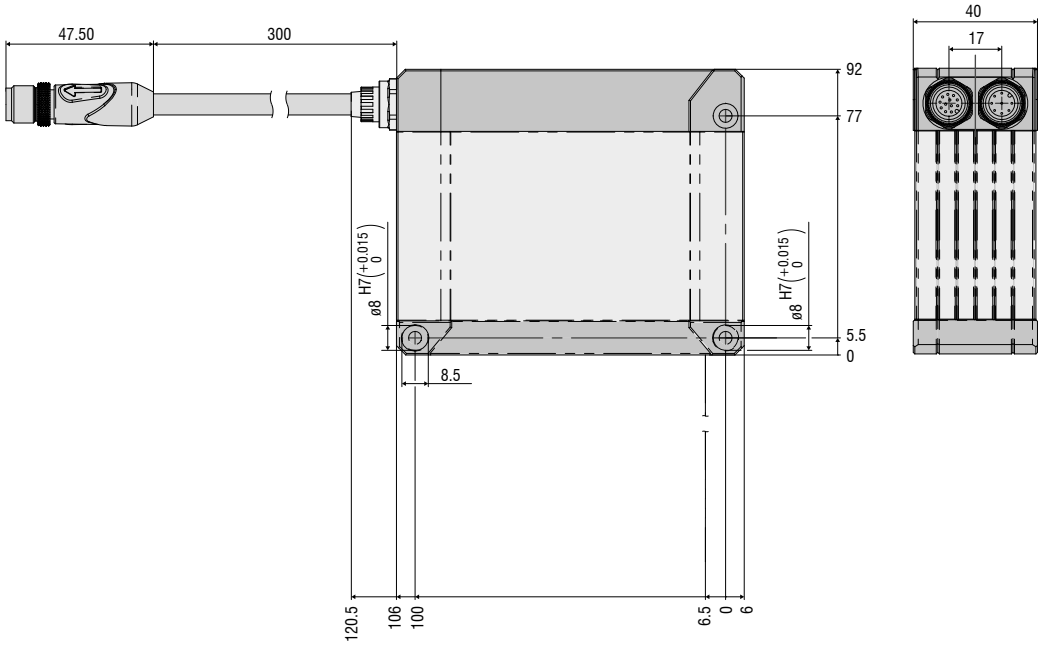
Cable outlet on the rear side ("Rear Tail") for space-saving installation

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



Standard

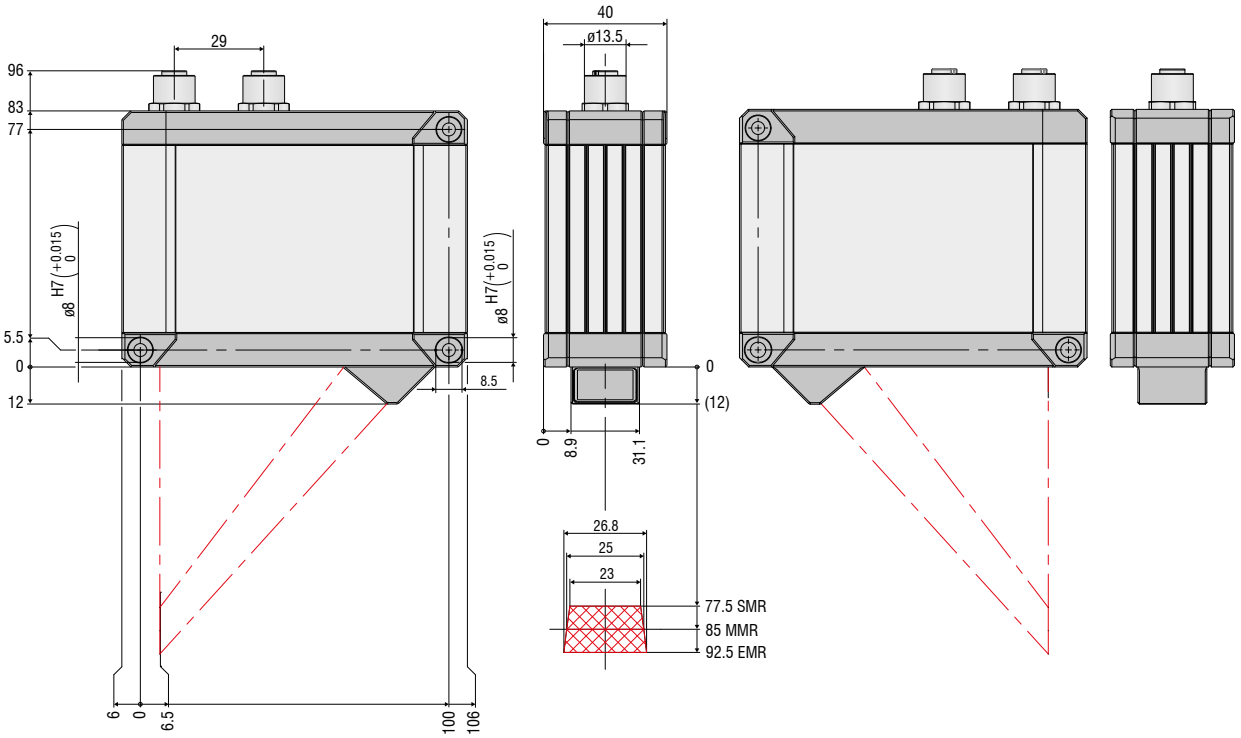
Option /RT



Dimensions and measuring ranges
scanCONTROL 30xx

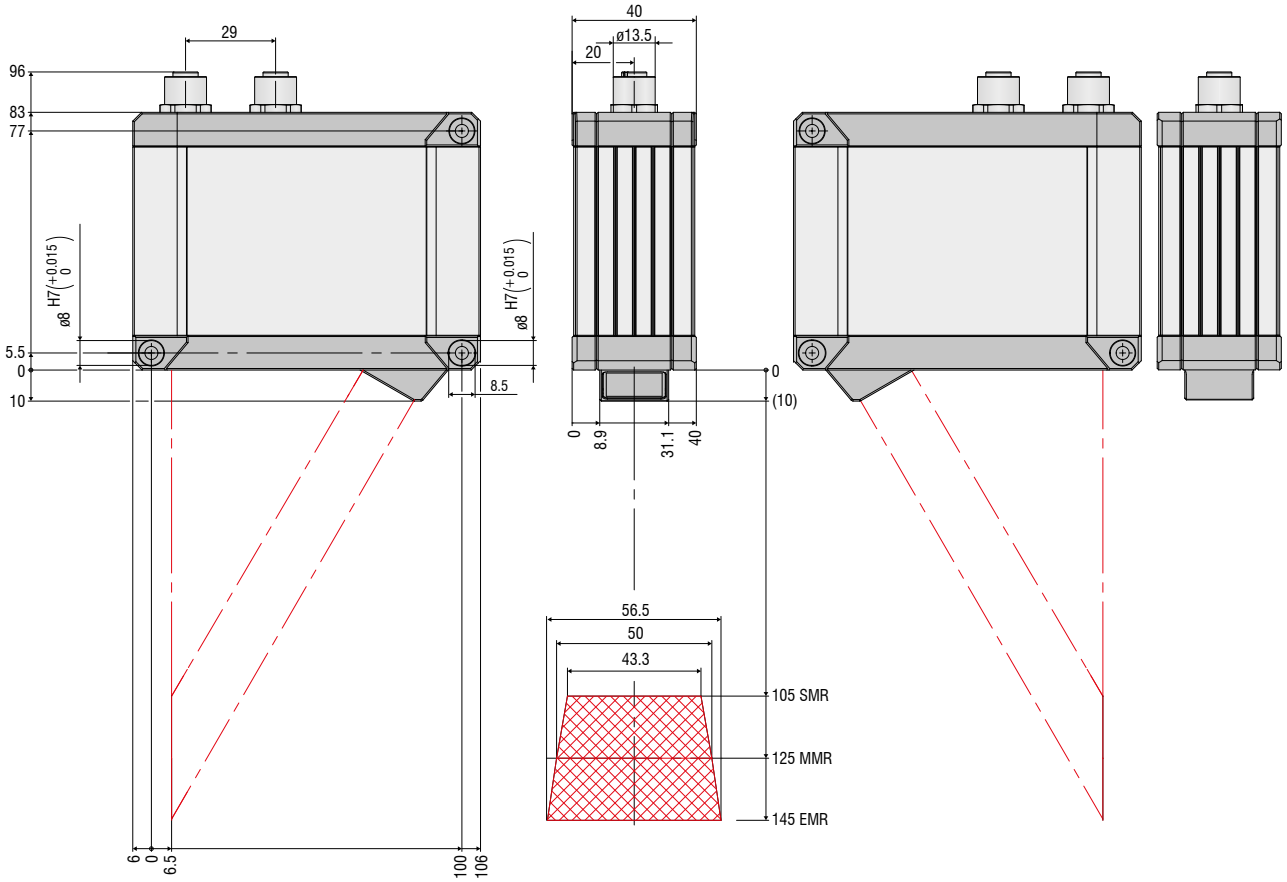
LLT30x2-25 / LLT30x0-25

Red Laser | Blue Laser



LLT30x2-50 / LLT30x0-50

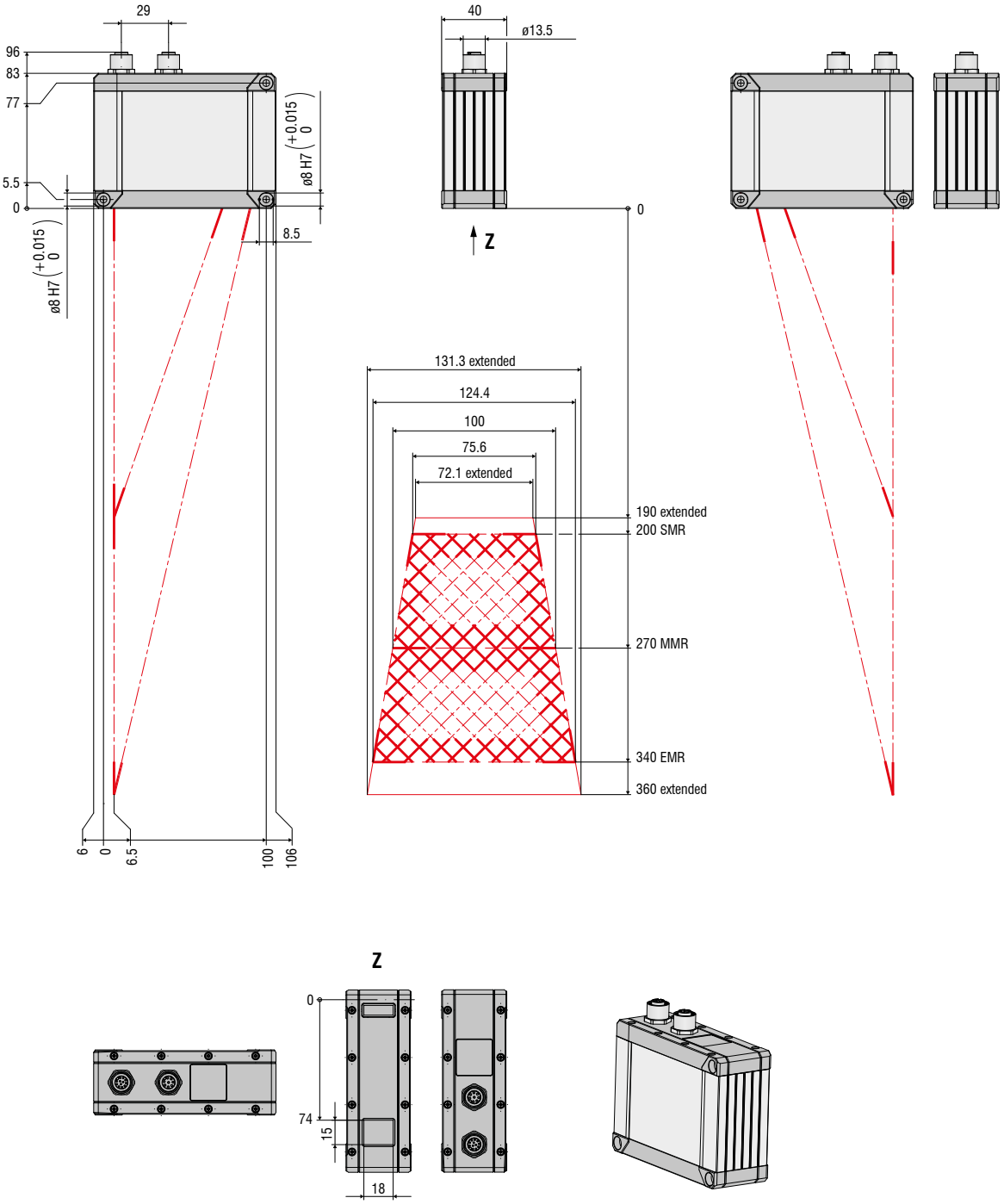
Red Laser | Blue Laser



Dimensions and measuring ranges
scanCONTROL 30xx

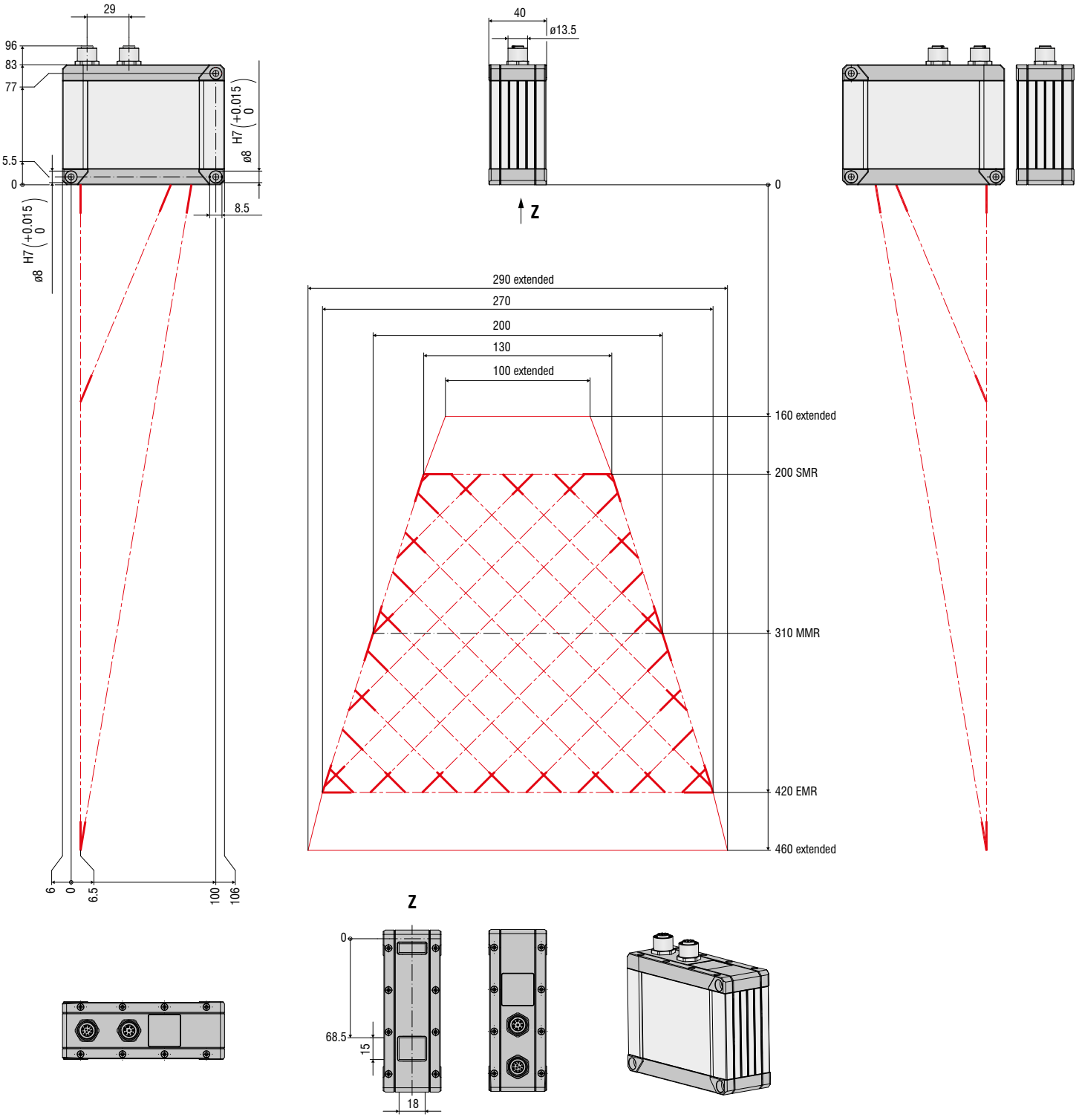
LLT30x2-100 / LLT30x0-100

Red Laser | Blue Laser



LLT30x2-200 / LLT30x0-200

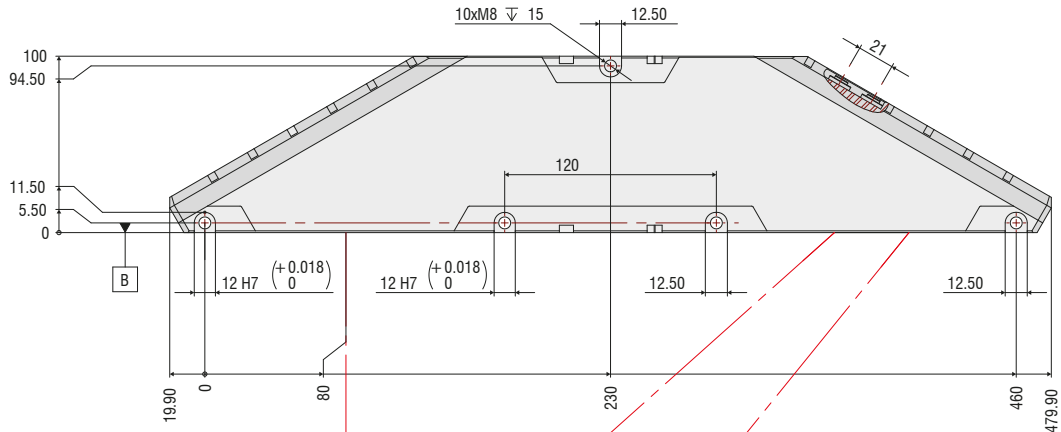
Red Laser

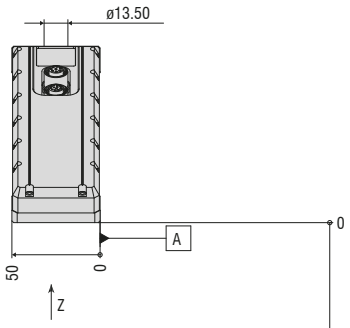


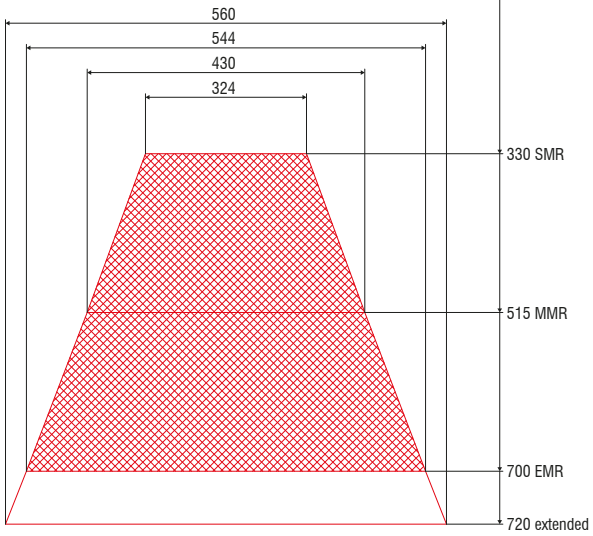
Dimensions and measuring ranges
scanCONTROL 30xx

LLT30x2-430 / LLT30x0-430

Red Laser



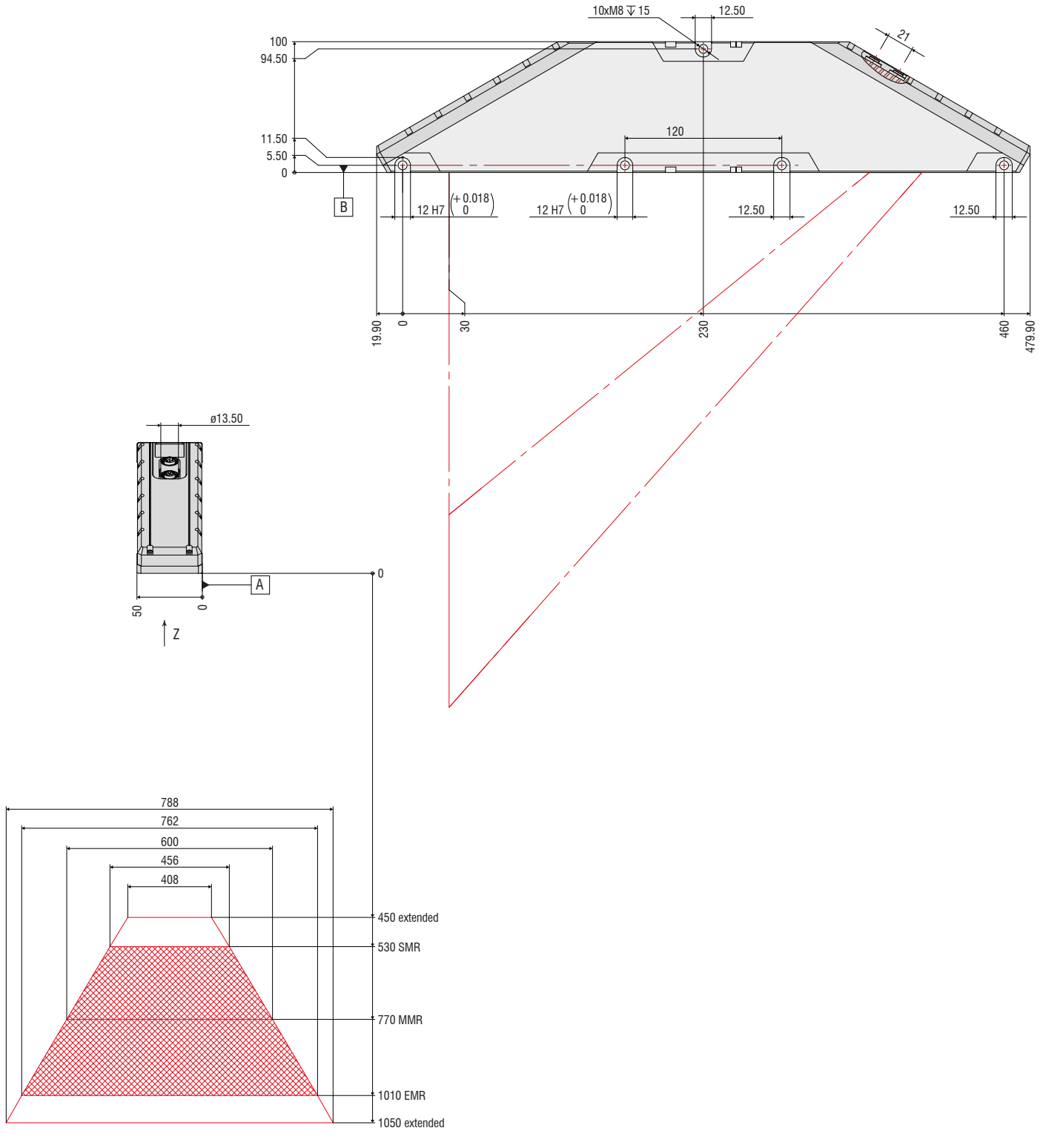




(dimensions in mm, not to scale)

LLT30x2-600 / LLT30x0-600

Red Laser



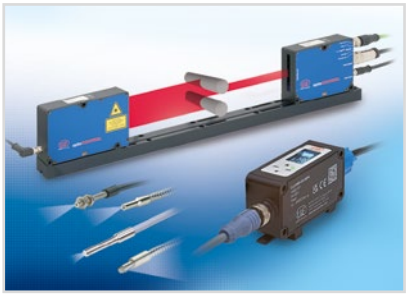
(dimensions in mm, not to scale)

Sensors and Systems from Micro-Epsilon

Sensors and systems for displacement, position and dimension

Sensors and measurement devices for non-contact temperature measurement

Measuring and inspection systems for quality assurance



Optical micrometers, fiber optics, measuring and test amplifiers

Color recognition sensors, LED Analyzers and inline color spectrometers

3D measurement technology for dimensional testing and surface inspection

Modifications reserved / Y9761353-G092044GKE

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