



More Precision

scanCONTROL // 2D/3D Laser profile sensors



Compact laser scanner with high precision

scanCONTROL 29x0

- 2D/3D** Ideal for precise 2D/3D measurements
- Resolution x-axis: 1,280 points
- High accuracy for the detection of finest details
- Profile frequency up to 2,000 Hz
- BL** Also available with patented Blue Laser Technology
- Compatible with **COGNEX® VisionPro**



SMART
PROFILE

Compact design for precise measurements

scanCONTROL 29x0 laser scanners are designed for industrial measurement tasks where compact design and high accuracy are required. Thanks to their high resolution, versatility and excellent price-performance ratio, the scanners are particularly suitable for static and dynamic applications, e.g., on robots. They measure and evaluate, e.g., angles, steps, gaps, distances and extreme values.

Available as PROFILE and SMART versions

The scanCONTROL 29x0 series is available as PROFILE and SMART versions. As PROFILE scanners, they provide calibrated profile data that can be further processed on a PC using software provided by the customer. 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.

Short measuring range with high resolution

With a laser line of just 10 mm, the scanCONTROL 29x0-10/BL models recognize the finest of details and structures. The high profile resolution combined with the blue laser line allow for maximum precision in versatile applications, e.g., monitoring in electronics production.

Article designation

LLT	29	00	-25	/SI
Options - see below				
Measuring range				
10 mm (only Blue Laser)				
25 mm				
50 mm				
100 mm				
Class				
00=PROFILE				
10=SMART				
50=HIGHSPEED				
60=HIGHSPEED SMART				
Series				
LLT29x0				

Laser options*

	/SI	Hardware switch-off of the laser line
	/3B	Increased laser power (class 3B, ≤ 20 mW), e.g., for dark surfaces
	/BL	Blue laser line (405 nm) for (semi-) transparent, red-hot glowing and organic materials

Cable outlet options*

	/PT	Cable directly out of the sensor ("Pigtail") Length 0.3 m
	/VT	Cable directly out of the sensor ("Variable Tail") Length 0.1 ... 1.0 m (freely selectable)

*Options can be combined

Accessories from page 39

Model		LLT29xx-10/BL	LLT29xx-25	LLT29xx-50	LLT29xx-100
Measuring range (z-axis)	Start of measuring range	52.5 mm	53.5 mm	70 mm	190 mm
	Mid of measuring range	56.5 mm	66 mm	95 mm	240 mm
	End of measuring range	60.5 mm	78.5 mm	120 mm	290 mm
	Height of measuring range	8 mm	25 mm	50 mm	100 mm
Extended measuring range (z-axis)	Start of measuring range	-	53 mm	65 mm	125 mm
	End of measuring range	-	79 mm	125 mm	390 mm
Line linearity (z-axis) ^{[1] [2]}		1 μ m	2 μ m	4 μ m	12 μ m
		± 0.0125 %	± 0.008 %	± 0.008 %	± 0.012 %
Measuring range (x-axis)	Start of measuring range	9.4 mm	23.4 mm	42 mm	83.1 mm
	Mid of measuring range	10 mm	25 mm	50 mm	100 mm
	End of measuring range	10.7 mm	29.1 mm	58 mm	120.8 mm
Extended measuring range (x-axis)	Start of measuring range	-	23.2 mm	40 mm	58.5 mm
	End of measuring range	-	29.3 mm	60 mm	143.5 mm
Resolution (x-axis)		1,280 points/profile			
Profile frequency	Standard	up to 300 Hz			
	High speed	up to 2,000 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	-	≤ 8 mW		
		-	Standard: laser class 2M, semiconductor laser 658 nm		
	Blue laser	-	≤ 20 mW		
		-	Option: laser class 3B, semiconductor laser 658 nm		
Laser switch-off		via software, hardware switch-off with /SI option			
Aperture angle of laser line		10 °	20 °	25 °	25 °
Permissible ambient light	(fluorescent light) ^[1]	10,000 lx			
Protection class (DIN EN 60529)		IP65 (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 ... +70 °C			
	Operation	0 ... +45 °C			
Weight		440 g (without cable)	380 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 (640 points)

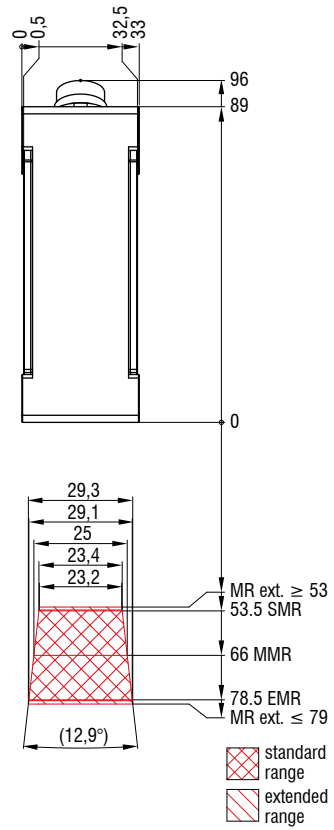
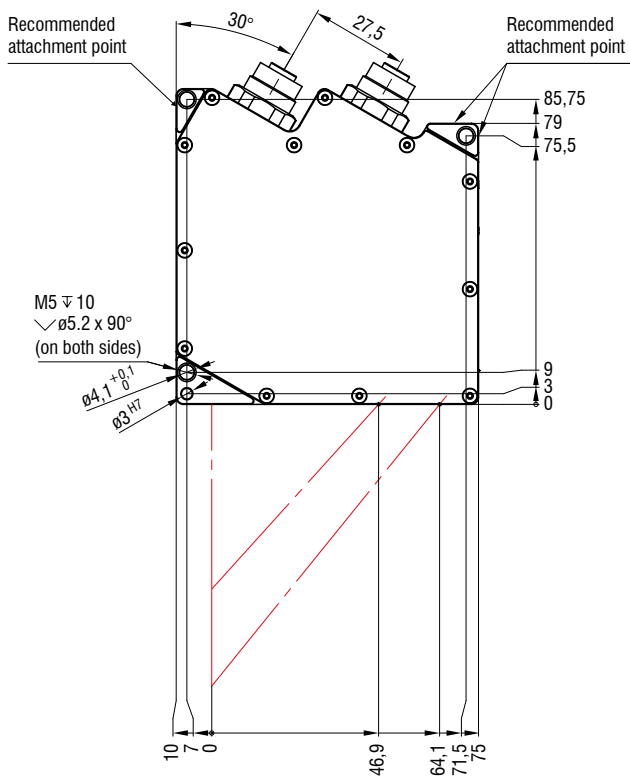
^[3] RS422 interface, programmable either as serial interface or as input for triggering/synchronization

^[4] Analog | switching signal: Only in conjunction with 2D/3D output unit

^[5] PROFINET | EtherCAT | EtherNet/IP: Only in conjunction with 2D/3D gateway

LLT25x0-25 / LLT29x0-25

Red Laser Blue Laser



(dimensions in mm, not to scale)

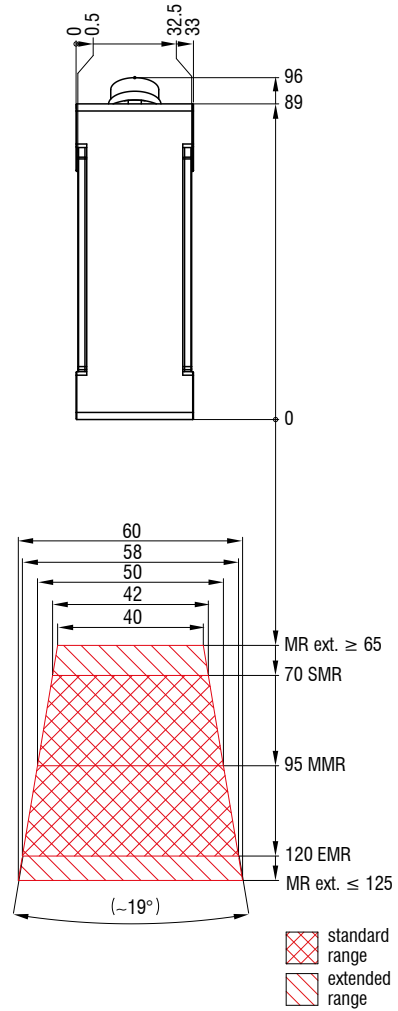
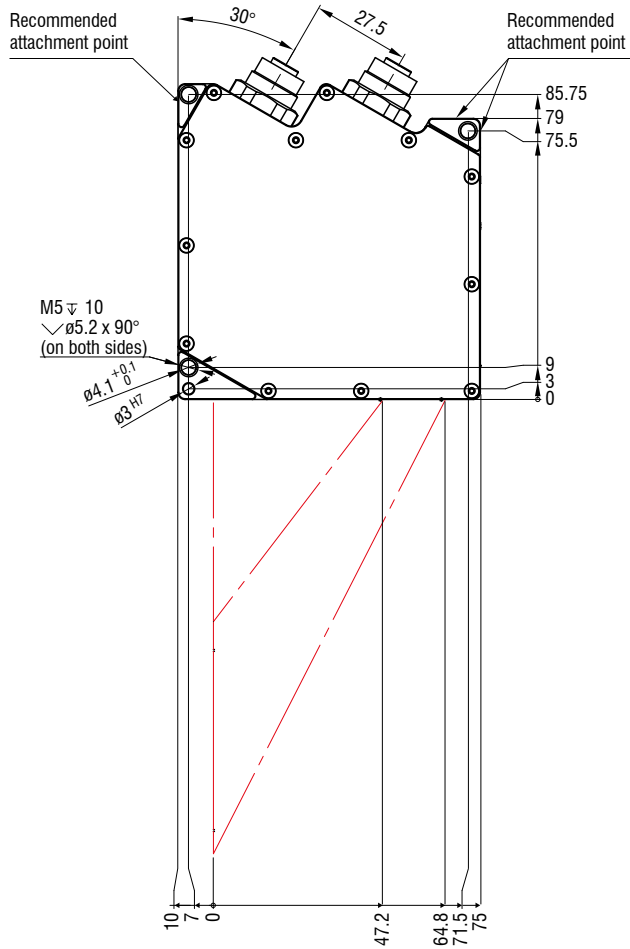
Dimensions and measuring ranges

scanCONTROL

LLT25x0-50 / LLT29x0-50

Red Laser

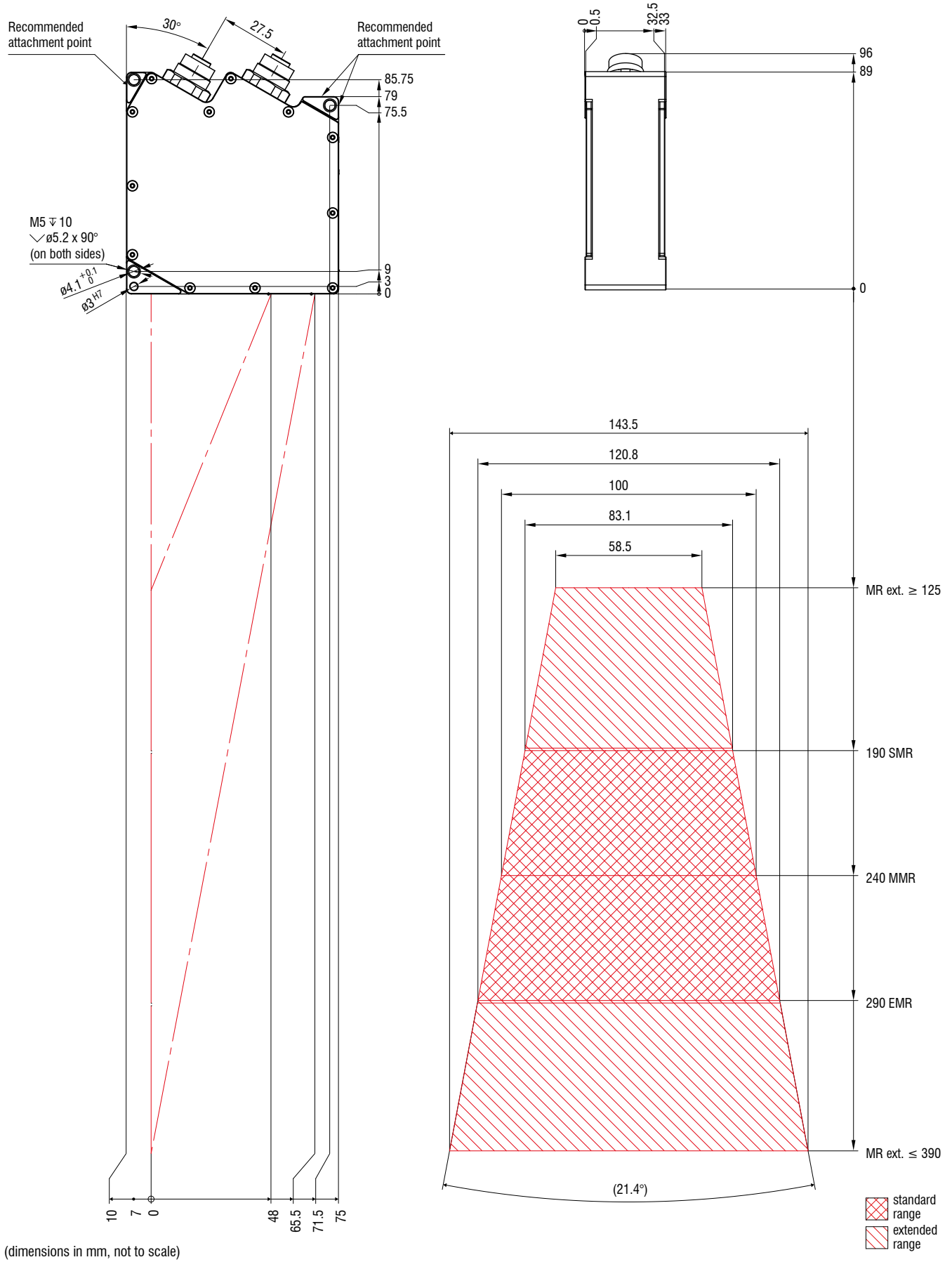
Blue Laser



(dimensions in mm, not to scale)

LLT25x0-100 / LLT29x0-100

Red Laser Blue Laser



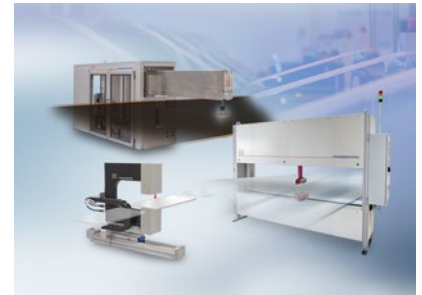
Sensors and Systems from Micro-Epsilon



Sensors and systems for displacement, distance and position



Sensors and measurement devices for non-contact temperature measurement



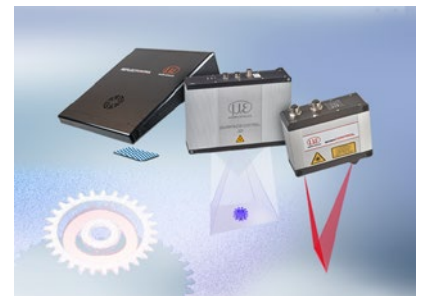
Measuring and inspection systems for metal strips, plastics and rubber



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

