MICRO-EPSILON

SCIENCE GATE
Your Automation Partner

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More Precision

scanCONTROL // 2D/3D laser scanners (laser profile sensors)

- *Profile frequency up to 4,000 Hz, ideal for fast 2D/3D measurements*
- *Resolution (x-axis) up to 640 points*
- *High reference resolution for the detection of finest details*

Compact design for all measurement tasks

The design of the LLT 26xx series is focused on compact size and low weight. The controller is integrated in the housing, simplifying cabling arrangements and mechanical integration. Due to its compact design and the profile frequency of up to 4000 profiles/sec., the 26xx series is especially suitable for dynamic and robotic applications.

Interfaces for universal integration

The multi-function port can be used for power supply, as data output, for switching parameters, as trigger input or for synchronizing several scanCONTROL sensors. During synchronous operation, an integrated mode can be used to operate the sensors alternately compensating for overlapping laser lines. One scanner is measuring whilst the other laser line is switched off.

The scanners can be supplied via Ethernet if necessary. If Industrial Ethernet is used as data output, only one cable will remain that connects the sensor to the periphery.

For all SMART sensors, the measurement data output can be carried out in three different ways, e.g., via Ethernet UDP, Modbus TCP or serial. Micro-Epsilon converters enable data transmission via analog signals, digital switching signals, PROFINET, Ethernet/IP or EtherCAT.

Article designation

LLT	26	00	-25	/SI

Options - see below

Measuring range
25 mm
50 mm
100 mm

Class
00=COMPACT
10=SMART
50=HIGHSPEED
60=HIGHSPEED SMART

Series
LLT26xx

Laser options*

/SI	Hardware switch-off of the laser line
/3B	Improved laser power (class 3B, ≤20 mW), e.g., for dark surfaces

Cable output options*

/PT	Cable directly out of the sensor ("Pigtail» Length 0.25 m
/VT	Cable directly out of the sensor ("Variable Tail") Length 0.1 ... 1.0 m (freely selectable)
/ST	1 cable directly out of the sensor ("Single Tail") multi-function port is omitted, Length 0.1 ... 1.0 m (freely selectable)

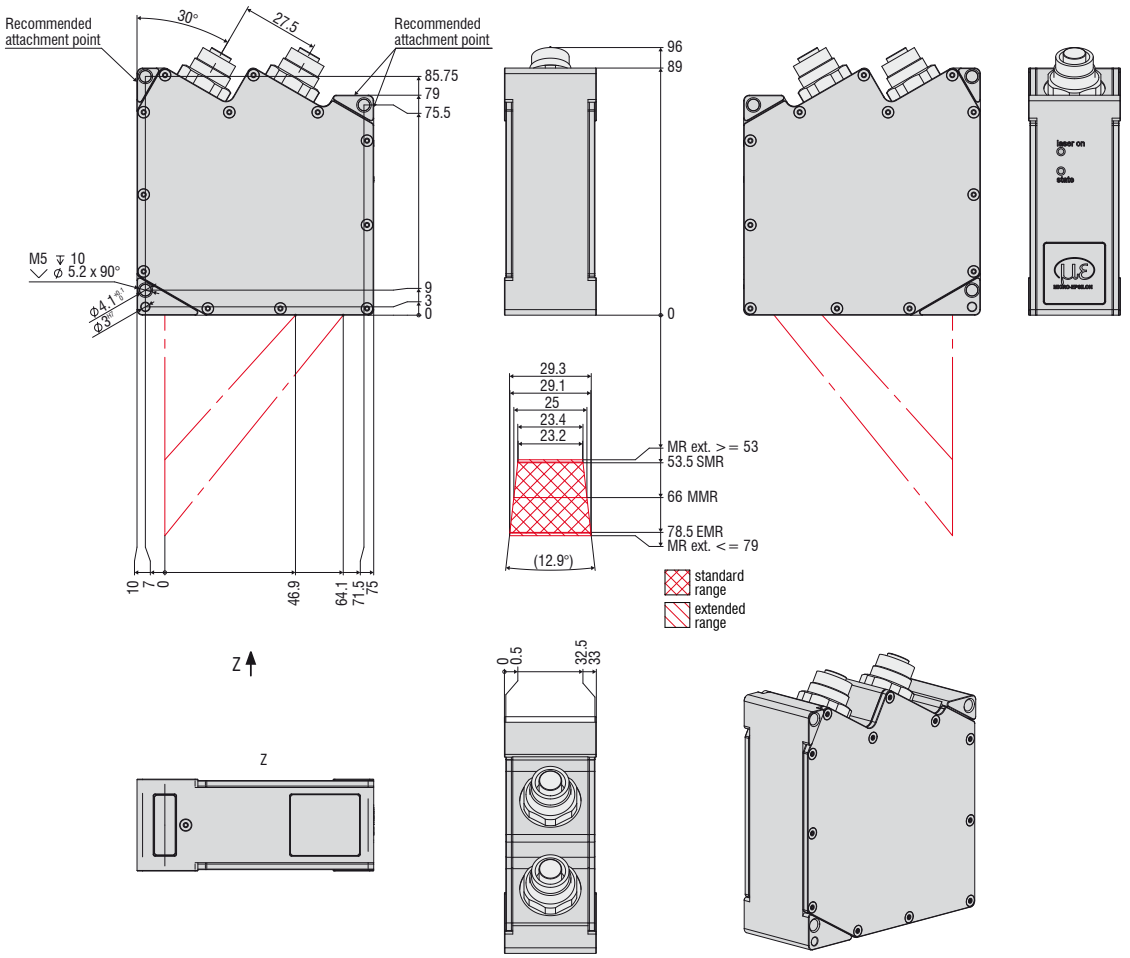
*Options can be combined

Accessories from page 32

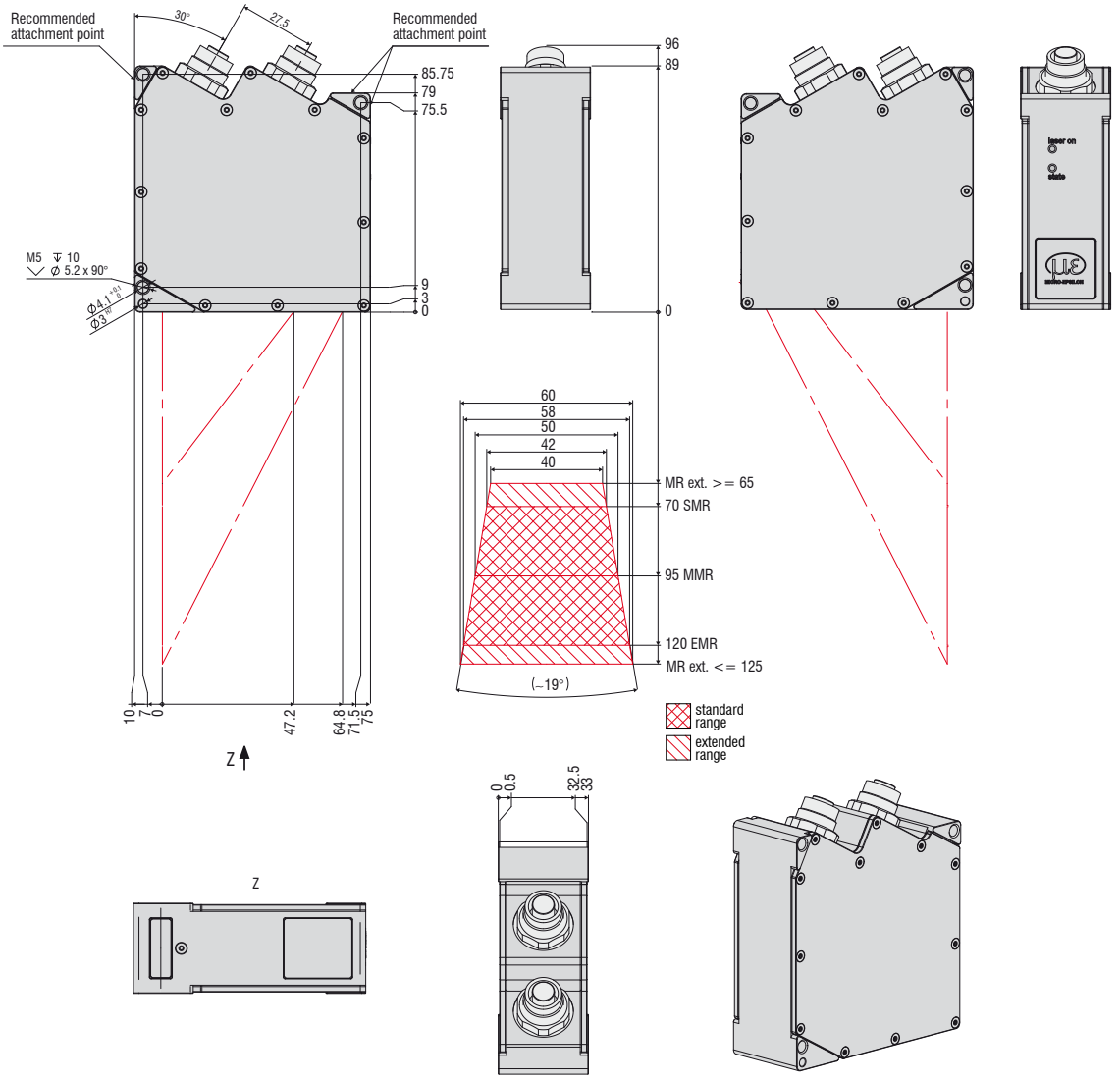
	Model		LLT26xx-25	LLT26xx-50	LLT26xx-100
z-axis (height)	Standard measuring range	Start of measuring range	53.5 mm	70 mm	190 mm
		Mid of measuring range	66 mm	95 mm	240 mm
		End of measuring range	78.5 mm	120 mm	290 mm
		Height of measuring range	25 mm	50 mm	100 mm
	Extended measuring range	Start of measuring range	53 mm	65 mm	125 mm
		End of measuring range	79 mm	125 mm	390 mm
	Linearity [1]	(2 sigma)	±0.10 % FSO	±0.10 % FSO	±0.13 % FSO
	Reference resolution [2] [3]		2 µm	4 µm	12 µm
x-axis (width)	Standard measuring range	Start of measuring range	23.4 mm	42 mm	83.1 mm
		Mid of measuring range	25 mm	50 mm	100 mm
		End of measuring range	29.1 mm	58 mm	120.8 mm
	Extended measuring range	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)		640 points/profile		
	Profile frequency	Standard	up to 300 Hz		
		HIGHSPEED	up to 4,000 Hz		
	Interfaces	Ethernet GigE Vision	Output of measurement values Sensor control Profile data transmission		
		Multi-function port: Digital inputs	Mode switching Encoder (counter) Trigger		
		Multi-function port: RS422 (half-duplex) [4]	Output of measurement values Sensor control Trigger Synchronization		
	Output of measurement values		Ethernet (UDP / Modbus TCP); RS422 (ASCII / Modbus RTU) analog [5]; switch signal [5] PROFINET [6]; EtherCAT [6]; EtherNet/IP [6]		
	Display (LED)		1x laser ON/OFF, 1x power/error/status		
	Light source		Semiconductor laser 658 nm (red)		
	Aperture angle of laser line		20°	25°	25°
	Laser power	Standard	≤ 8 mW (laser class 2M)		
		optional	≤ 20 mW (laser class 3B)		
	Laser switch-off	optional	Hardware safety switch-off		
	Permissible ambient light (fluorescent light) [2]		10,000 lx		
	Protection class (sensor)		IP65		
	EMC requirements		according to: EN 61326-1: 2006-10 DIN EN 55011: 2007-11 (group 1, B class) EN 61000-6-2: 2006-03		
	Vibration		2 g / 20 ... 500 Hz		
	Shock		15 g / 6 ms		
	Operating temperature		0 … +45 °C		
	Storage temperature		-20 … +70 °C		
	Dimensions		96 x 85 x 33 mm		
	Sensor weight (without cable)		380 g		
	Supply		11 … 30 VDC, nominal value 24 V, 500 mA, IEEE 802.3af class 2, Power over Ethernet		

[1] Measuring range (standard)
[2] Measurement object: Micro-Epsilon standard object (metallic, diffusely reflecting material)
[3] According to a one-time averaging across the measuring field (640 points)
[4] RS422 interface, programmable either as serial interface or as input for triggering/synchronization
[5] Only with Output Unit
[6] Only with scanCONTROL Gateway
FSO = Full Scale Output

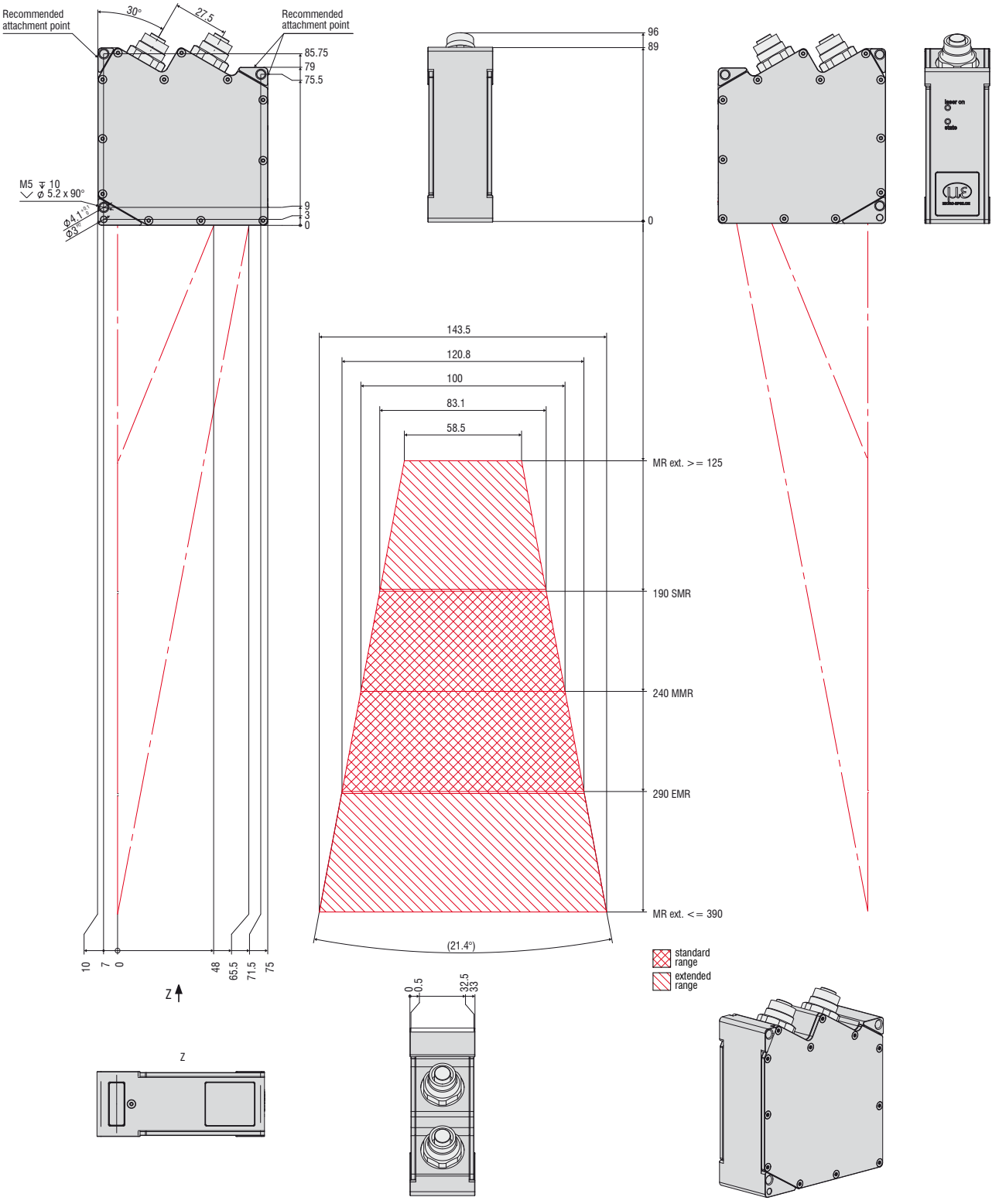
LLT25x0/LLT26x0/29x0-25



LLT25x0/LLT26x0/29x0-50



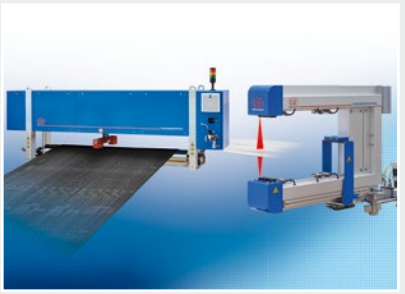
LLT25x0/LLT26x0/29x0-100



Sensors and Systems from Micro-Epsilon

Sensors and systems for displacement, distance and position

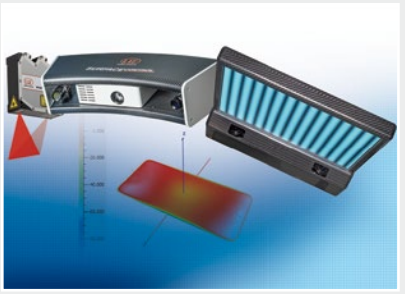
Sensors and measurement devices for non-contact temperature measurement



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

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