MICRO-EPSILON

SCIENCE GATE
Your Automation Partner

SCIGATE AUTOMATION (S) PTE LTD

Bukit Batok Street 22 #01-01 Singapore 659592
Tel: (65) 6561 0488 Fax: (65) 6561 0588
Email: sales@scigate.com.sg Web: https://scigate.com.sg/

Business Hours: Monday - Friday 8:30AM - 6:15PM

More Precision

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

- *High resolution in x- and z-axis*
- *Profile frequency up to 10 kHz for monitoring of dynamic processes*
- *Innovative exposure control*
- *Available with patented Blue Laser Technology*

Fast and precise 2D/3D profile measurements
The latest LLT30xx laser profile scanners provide calibrated 2D profile data with up to 5.5 million points per second. Enabling profile frequency of 10 kHz, the HIGHSPEED models are used for monitoring tasks in dynamic processes. The high-resolution sensor matrix with 2,048 points achieves a point distance of just 12 µm (LLT30xx-25).

Available with patented Blue Laser Technology
The scanCONTROL 30xx/BL laser profile scanners are equipped with a blue-violet laser diode. Particularly with semi-transparent measurement objects, the blue laser offers high signal stability.

The easy way of machine integration
The design of the LLT30xx series is compact and lightweight. The controller is integrated in the sensor itself, which simplifies mechanical integration. Numerous interfaces such as digital switch signals, Ethernet, PROFINET, EtherNet/IP or EtherCAT allow for measured data to be output directly.

Innovative exposure control to master difficult surfaces
On inhomogeneous or dark surfaces, the HDR (High Dynamic Range) data acquisition mode and the improved auto exposure optimizes the measurement results. In HDR mode, the rows of the sensor matrix are exposed differently but at the same time which avoids time offsets between the recordings. This is how moving objects can be detected reliably. The auto exposure feature enables to individually select the areas to be exposed.

Top performances with selectable 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.

Article designation

LLT	30	00	-25	/SI

Options - see below

Measuring range
25 mm
50 mm

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

Series
LLT30xx

Laser options*

/SI	Hardware switch-off of the laser line
/3R	Increased laser power (class 3R, ≤ 30 mW), e.g., for dark surfaces
/BL	Blue laser line (405 nm) for (semi-) transparent, red-hot glowing and organic materials

Cable output options*

/PT	Cable directly out of the sensor ("Pigtail"), Length 0.3 m
/VT	Cable directly out of the sensor ("Variable Tail") with a length of 0.6 or 1.0 m
/ST	1 cable directly out of the sensor ("Single Tail"), multi-function port is omitted, with a length of 0.6 or 1.0 m

*Options can be combined

Accessories from page 32

	Model		LLT30xx-25	LLT30xx-25/BL	LLT 30xx-50	LLT 30xx-50/BL
Z-axis	Standard measuring range	Start of measuring range	77.5 mm		105 mm	
		Mid of measuring range	85 mm		125 mm	
		End of measuring range	92.5 mm		145 mm	
		Height of measuring range	15 mm		40 mm	
	Linearity [1]	(2 sigma)	±0.08 % FSO	±0.06 % FSO	±0.08 % FSO	±0.06 % FSO
	Reference resolution [2] [3]		1.5 µm		3 µm	
X-axis	Standard measuring range	Start of measuring range	22.9 mm		43 mm	
		Mid of measuring range	25 mm		50 mm	
		End of measuring range	26.8 mm		57 mm	
	Resolution (x-axis)		2,048 points/profile			
	Profile frequency	Standard	up to 300 Hz			
		HIGHSPEED	up to 10,000 Hz			
	Interfaces	Ethernet GigE Vison	Output of measurement values Sensor control Profile data transmission			
		Digital inputs	Mode switching Encoder (counter) Trigger			
		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)		1 x Laser ON/OFF, 1 x Data, 1 x Error			
	Light source		Semiconductor laser 658 nm (red)	Semiconductor laser 405 nm (blue)	Semiconductor laser 658 nm (red)	Semiconductor laser 405 nm (blue)
	Aperture angle of laser line		23°		28°	
	Laser power	Standard	≤ 10 mW (laser class 2M)			
		optional	≤ 30 mW (laser class 3R)	-	≤ 30 mW (laser class 3R)	-
	Laser switch-off		via software, hardware switch-off with /SI option			
	Permissible ambient light (fluorescent light) [2]		10,000 lx			
	Protection class (sensor)		IP67 (when connected)			
	EMC requirements		according to DIN EN 61000-6-2: 2005, DIN EN61000-6-3: 2007, DIN EN61326-1:2013 and DIN EN50581:2012			
	Vibration		2 g / 20 … 500 Hz			
	Shock		15 g / 6 ms			
	Operating temperature		0 … +45 °C			
	Storage temperature		-20 … +70 °C			
	Dimensions		96 x 112 x 40 mm			
	Sensor weight (without cable)		415 g			
	Supply		11 … 30 VDC, nominal value 24 V, 500 mA, IEEE 802.3af class 2, Power over Ethernet			

FSO = Full Scale Output

[1] Measuring range (standard)

[2] Measurement object: Micro-Epsilon standard object

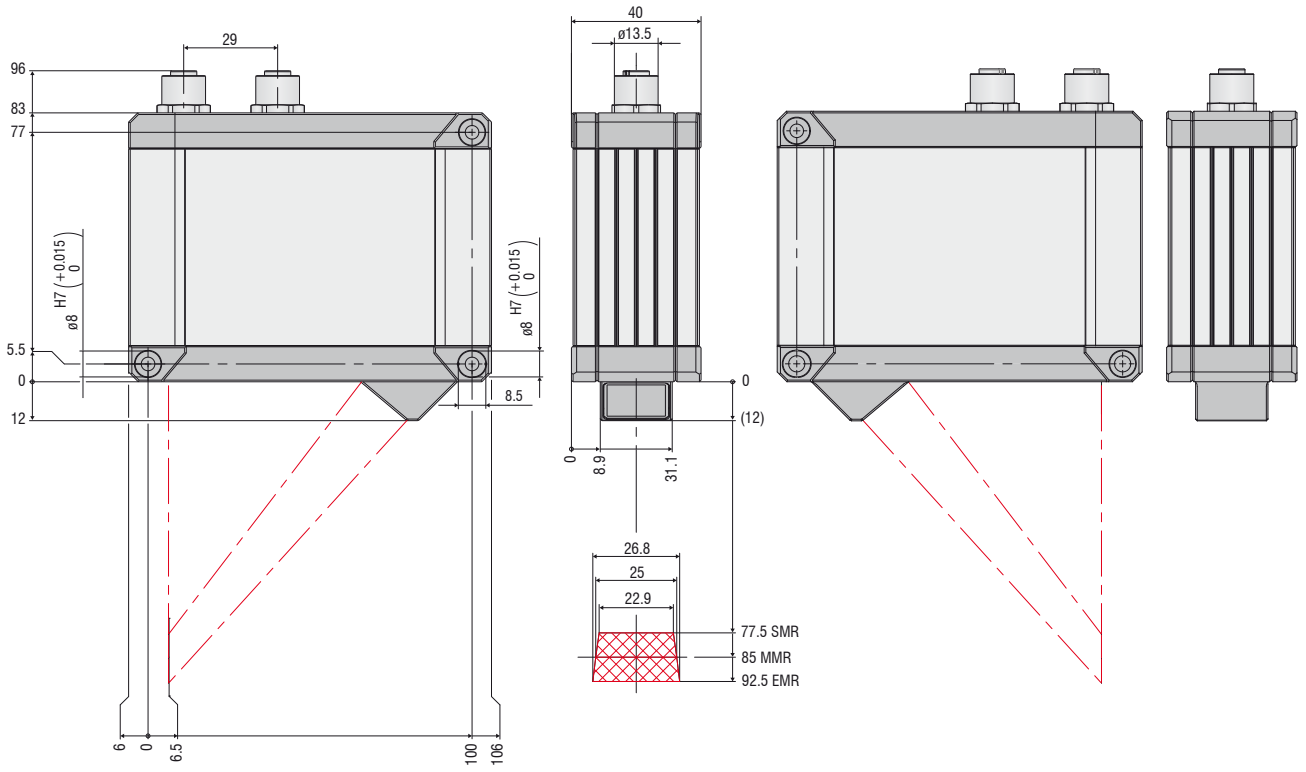
[3] According to a one-time averaging across the measuring field (2,048 points)

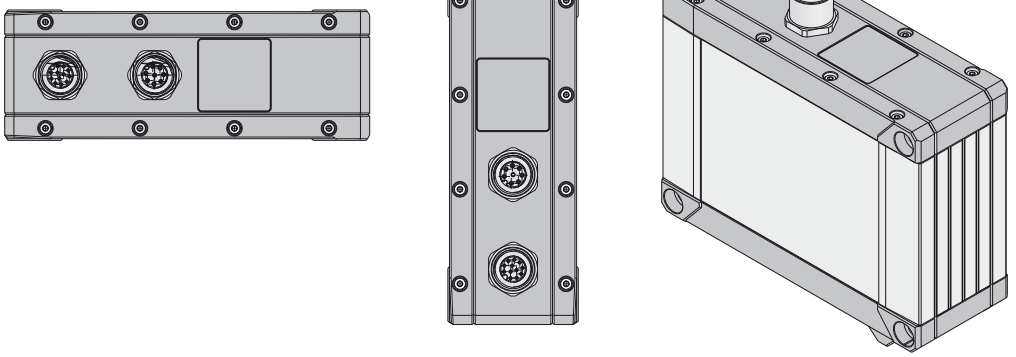
[4] RS422 interface, programmable either as serial interface or as input for triggering/synchronization

[5] Only with Output Unit

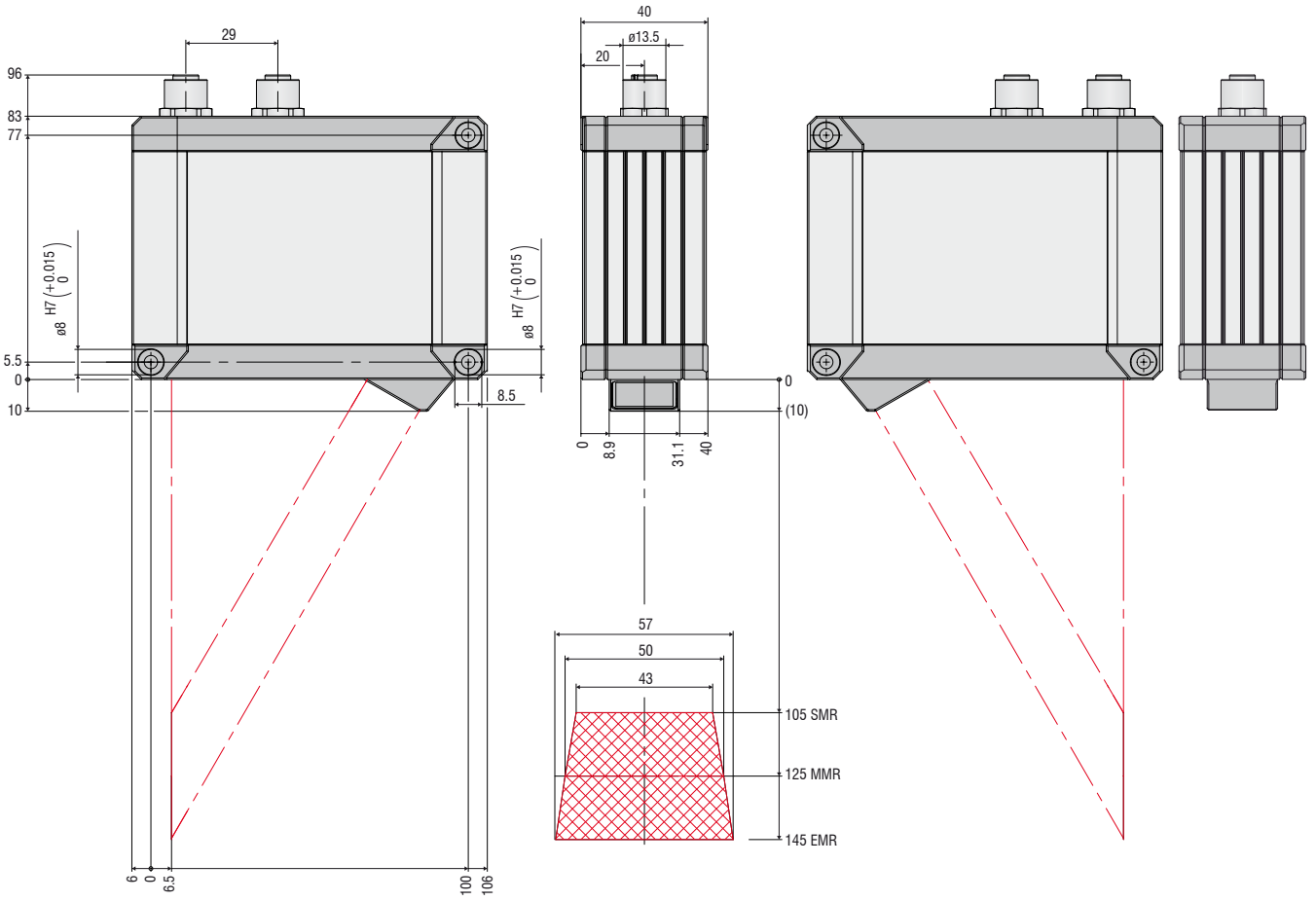
[6] Only with scanCONTROL Gateway

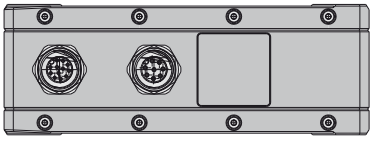
LLT30xx-25
LLT30xx-25/BL

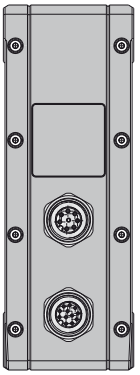


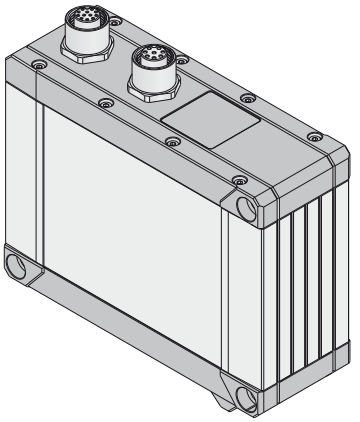


LLT 30xx-50
LLT 30xx-50/BL





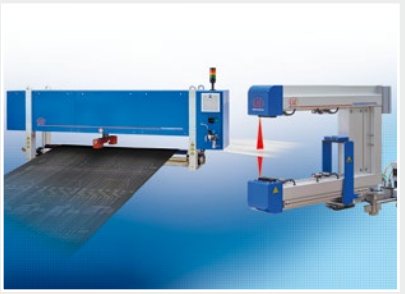




Sensors and Systems from Micro-Epsilon

Sensors and systems for displacement, distance and position

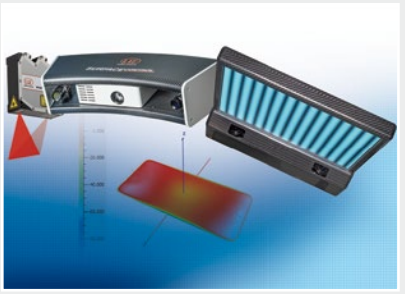
Sensors and measurement devices for non-contact temperature measurement



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

MICRO-EPSILON USA
8120 Brownleigh Dr. · Raleigh, NC 27617 / USA
Phone +1/919/787-9707 · Fax +1/919/787-9706
me-usa@micro-epsilon.com · **www.micro-epsilon.com**