Laser Distance Meters LAM51/52/53

Precise, robust, no reflector needed

Measure distances with millimeter accuracy. Define positions. Measure fill levels. Register motion processes.

The LAM51/52/53 is a familly of opto-electronic distance meters designed for industrial applications. Measurements up to 150 m are performed precisely, fast and in a non-contact fashion using the comparative phase shift method.

Equipped with interface options such as Profibus DP, SSI, RS232 or RS422 as well as selectable switching and analog outputs, the sensors can easily be integrated into any industrial infrastructure including fieldbus-driven process controllers.

The compact and robust design shape combines with low power consumption, and the possibility to set specific device parameters warrants flexibility in use. Optional heating enables indoor and outdoor operation at low temperatures.

Benefits

- Precise: phase comparison allows distances up to 150 meters to be measured with millimeter accuracy.
- Nonwearing: distances can be reliably determined in a noncontact procedure that requires no reflector.
- Accurate: an easily perceivable measuring beam is provided for pinpoint alignment of the sensor.

Applications

- Distance measurement and determination of positions
- Fill level measurement
- Position monitoring of moving objects
- Positioning of hoisting facilities, conveyor systems and crane equipment

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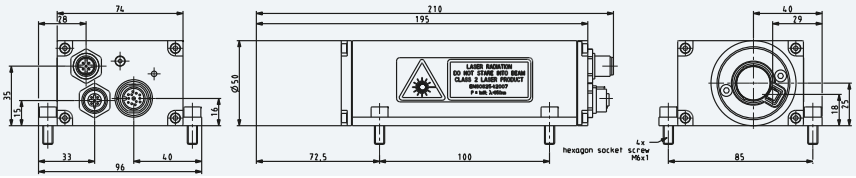
Specifications

		LAM	51.1	51.2	51.11	51.21	52.1	52.2	52.11	52.21	53	53.01
Measuring range [*1]	on natural surfaces [*2]	0.1 m ... 30 m										
	on target board	25 m ... 150 m										
Measuring accuracy [*3]	+15 °C ... +30 °C	± 3 mm										
	(-40) -10 °C ... +50 °C	± 5 mm										
Measured value resolution		0.1 mm										
Reproducibility		≤ 0.5 mm										
Time to measure I Measuring frequency		0.16 s ... 6 s I 0.17 Hz ... 6.25 Hz										
	target reflectivity ≥ 80%	0.1 s I 10 Hz										
	target reflectivity ≥ 80%	20 ms I 50 Hz										
Laser classification		Laser class 2, ≤ 1 mW according to IEC 825-1 / EN 60825										
Wavelength		650 nm (red)										
Divergence measurement beam		0.6 mrad										
Interfaces and data transfer rates [*4]		RS232 (max. 38.4 kBaud)										
		RS422 (max. 38.4 kBaud)										
		Profibus (max. 12 MBaud)										
		SSI, 24 bit, Gray-coded (max. 1 MHz)										
Connectors		12-pole M16 (Binder series 423)										
		5-pole M12 (Binder series 766)									(2x)	(2x)
Operating modes		Single measurement, continuous measurement, distance tracking										
Switching output (number)											(2x)	(2x)
Trigger input												
Analog output												
Supply voltage (U_V)		10 ... 30 V DC										
Maximum power consumption		1.5 W										
		3.2 W										
		24 W (with heating, 24 V DC)										
		25.7 W (with heating, 24 V DC)										
Operating temperature		-10 °C ... +50 °C [*5]										
		-40 °C ... +50 °C [*5]										
Storage temperature		-40 °C ... +70 °C										
Dimensions (L x W x H)		205 mm x 96 mm x 50 mm										
		210 mm x 96 mm x 50 mm										
Weight		760 g										
		770 g										
Internal protection class		IP65										
EMC		EN 61326-1										

*[*1] Depending on target reflectivity, stray light effects and atmospheric conditions.*
*[*2] On natural, diffuse reflecting surfaces*
*[*3] Statistical spread 95%*
*[*4] Listed are available interface options and maximum data transfer rates. Please contact us for more detailed information.*
*[*5] Automatic laser diode shut-down on excess of temperature limits.*

Legend:
applicable
not applicable

Dimensions (LAM53)



It is our policy to constantly improve the design and specifications. Accordingly, the details represented herein cannot be regarded as final and binding.