

Laser Distance Meter LDM301 Measuring distance and speed without a reflector



Properties

The LDM301 laser distance meter measures distance and speed values in a non-contact fashion, also without a reflector. Taking only a short time to measure, it facilitates distance measurement to or from moving objects. The laser pulse's time-of-flight measurement principle is particularly suitable where long distances have to be measured or for operation in harsh industrial environments. Of compact design shape, simple setup and configured with standard interfacing facilities, the LDM301 can easily be installed and commissioned. For interfacing, RS232, RS422, SSI and Profibus are available. Standard LDM301 delivery includes heating, a status display and a sighting device. A modular setup allows for easy complementation with accessories or special models for particular applications.

Benefits

- Broad working range and very short time to measure
- Great reach, also without reflectors
- Allows synchronisation with external devices
- · Compact design shape, easy to install and operate

Applications

Performance features of the LDM301 warrant multiple possibilities of application in industrial environments:

- Process monitoring in steel works and rolling mills
- Fill-level measurement
- Positioning of cranes, loading and handling equipment
- Measurement of points that cannot be accessed, for example, inside of cavities, tubes or containers
- Position monitoring of vehicles or ships

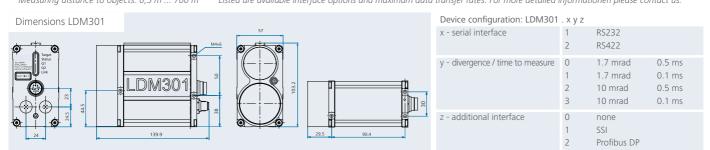
Sensor Systems

Laser Distance Meter LDM301 Measuring distance and speed without a reflector

Specifications

Measuring range! on raturd surface? 0.5300 m c			Standard models LDM301.	100	101	102	110	120	130	200	202	210
Accuracy ³⁴ 100 H2 output ± 0 mm ici ici<	Measuring range ¹	on natural surface	s ² 0.5 300 m									
2 kHz output ± 60 mm Im		on target boa	d 0.5 3000 m									
Measurement value resolution 1 mm Imm Im	Accuracy*3	100 Hz outp	ut ± 20 mm									
Time to measure 1 Frequency standard 0.5 ms 1 2 kHz 1	2 kHz output		^{ut} ± 60 mm									
special models 0.1 ms 1 n 0 kHz (m) (m)<	Measurement value resolution		1 mm									
Time to measure speed measurement min. 2.5 ms 1 at 2 kHz measuring frequency Image: Compact 1 (0) kHz measuring frequency Image:			d 0.5 ms I 2 kHz									
Indication min. 2.5 ms I at 10 kHz measuring frequency I <t< td=""><td>^{Is} 0.1 ms I 10 kHz</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>			^{Is} 0.1 ms I 10 kHz									
Laser classification Laser classi 1, according to EN 60825-1:2007 I <td colspan="2" rowspan="2">Time to measure <i>speed measurement</i></td> <td>t min. 12.5 ms I at 2 kHz measuring frequency</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	Time to measure <i>speed measurement</i>		t min. 12.5 ms I at 2 kHz measuring frequency									
Laser wavelength 905 nm Image Image <td>min. 2.5 ms I at 10 kHz measuring frequency</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>			min. 2.5 ms I at 10 kHz measuring frequency									
Divergence measuring beam standard 1.7 mrad Image	Laser classification		Laser class 1, according to EN 60825-1:2007									
special models 10 mrad in in< in <td colspan="2">Laser wavelength</td> <td>905 nm</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	Laser wavelength		905 nm									
Adjusting aid standard Pilot laser, 635 nm (red), laser class 2 I	Divergence measuring b	oeam standa	d 1.7 mrad									
Interfaces and data rates ^{*4} Telescope adapter Image: Solution of the soluti the solution of the solution of the solution of the sol		special mode	^{ls} 10 mrad									
Interfaces and data rates ^{*4} RS322 (max. 460.8 kBaud) Image: RS42 (m	Adjusting aid	standa	d Pilot laser, 635 nm (red), laser class 2									
R5422 (max. 460.8 kBaud) Image: max addition of the series additis addition of the series addition of the series additio		option	al Telescope adapter									
Profibus DP-V0 Slave (max. 12 MBaud) Image: Sigle of the series 423 I	Interfaces and data rates ^{*4}		RS232 (max. 460.8 kBaud)									
SSI, 24 bit, Gray-encoded, 1 validity bit Image: Connectors Image: Conn			RS422 (max. 460.8 kBaud)									
$ \begin{array}{c} \mbox{Connectors} & 12-pole M16 (Binder series 423) & (1x) & (1x$			Profibus DP-V0 Slave (max. 12 MBaud)									
S-pole M12 B-encoded (Binder series 766) (2x) (2x) <td< td=""><td>SSI, 24 bit, Gray-encoded, 1 validity bit</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>			SSI, 24 bit, Gray-encoded, 1 validity bit									
Operating modesSingle and continuous measurement, average, external triggering, near-field suppression, windowingImage: Constant constan	Connectors		12-pole M16 (Binder series 423)	(1x)								
Switching output"High-side", max. load 0.2 A, permanent short-circuit-proof, adjustable windowing(2x)			5-pole M12 B-encoded (Binder series 766)	(2x)								
short-circuit-proof, adjustable windowing Image: Short-circuit-proof, adjustable windowing </td <td colspan="2">Operating modes</td> <td>Single and continuous measurement, average, external triggering, near-field suppression, windowing</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	Operating modes		Single and continuous measurement, average, external triggering, near-field suppression, windowing									
Trigger for device synchronisation In/out, up to 30 VDC, flank/delay adjustable (1x) (1x)<				(2x)								
Analog output 4 mA 20 mA Image: Supply (U_v) 10 V DC 30 V DC Image: Supply (U_v) 10 V DC 30 V DC Image: Supply (U_v)			short-circuit-proof, adjustable windowing									
Voltage supply (U,v) 10 V DC 30 V DC Image: Constraint of the straint of the	Trigger for device synchronisation		In/out, up to 30 VDC, flank/delay adjustable	(1x)								
Max. power consumption < 5 W (without heating)	Analog output		4 mA 20 mA									
InstructionInstructin	5 y V		10 V DC 30 V DC									
Operating temperature-40 °C +60 °CImage: Comparison of the temperatureImage: Comparison of temperatureIm	Max. power consumption		< 5 W (without heating)									
Storage temperature-40 °C +70 °CImage: Constraint of the state of the s			5									
Humidity15 % 90 %Image: Constraint of the second												
Dimensions (L x W x H) 136 mm × 57 mm × 104 mm Image: Comparison of the state of the st			-40 °C +70 °C									
Weightapprox. 800 g (depending on configuration)Image: Constraint on the second	Humidity		15 % 90 %									
Internal protection class IP67	Dimensions (L x W x H)											
	Weight		approx. 800 g (depending on configuration)									
EMC EN 61326-1	Internal protection class	S	IP67									
	EMC		EN 61326-1									

¹¹ Depending on target reflectivity, stray light effects and atmospheric conditions. ² on natural, diffuse reflecting surfaces. ³ Measuring distance to objects: 0,5 m ... 700 m ⁴ Listed are available interface options and maximum data transfer rates. For more detailed informationen please contact us.



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

