Laser Distance Measurement Sensor LDM301 – Range up to 3000m

Description:

The new LDM 301 Laser distance sensor measures distance and speed of natural targets without a reflector. A reflector can be used for increasing the measuring range. The sensor needs only a very short time to measure; it facilitates distance measurement to or from moving objects. The laser pulse's time-of-flight measurement principle which it uses is specifically suitable where great distances have to be measured and for applications in harsh industrial environments.

With the compact design shape, simple setup and configured with standard interfacing facilities, the LDM 301 can easily be installed. For interfacing an analogue output, 2 digital outputs and a serial interface RS232 or RS422 are available.

Standard LDM 301 delivery includes integral heating, a status display and a red Laser pointer. A modular setup allows for easy complementation with accessories or special models as may be required in particular applications.

Advantage:
Broad working range
Great reach, also without reflectors
Allows synchronization with external devices
Easy to install and operate

Applications:
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

Technical Data:

Measuring range	0,5 m ... 300 m for natural surfaces*² with target board 3 km possible
Measuring accuracy	± 20 mm (bei Messwertausgabe 100 Hz; Messfrequenz 2kHz) ± 60 mm (at 100 Hz output rate 2 kHz)
Resolution	1 mm
Measuring time	Standard: 0,5 ms Option: 0,1 ms
Measurment range velocity	0 m/s ... 100 m/s
Time to measure	0,1 s ... 0,5 s
Connectors	1r 1x 12-pole (BINDER series 723) M18 2x 5-pole (BINDER series 766) M12 B-cpded (optional)
Serial interface	RS232 or RS422 transfer rate : 1,2 kBaud ... 460,8 kBaud
Profibus	DP-V0 Slave | IEC 61158 / IEC 61784 Transfer rate : 9,6 kBaud ... 12 MBaud
SSI	24bit, binary coded, 1 validity bit
Digital switching output	2x "high-side switch", max. load capacity 0,2 A, permanent short-circuit-proof,

	adjustable windowing functionality
Analog output	4 … 20 mA
Trigger input	1x Trigger In/Out, Trigger pulse 3 ... 30 VDC | Trigger edge and delay adjustable
Operating mode	single measurement | continuous measurement, mean value, external triggering (adjustable near field suppression and window function)
EMV	Laser classe 1 EN 60825-1:2003-10
Divergence	Standard: 1,7 mrad (x 0,1 mrad) Special version: 10 mrad (x 0,5 mrad)
Laser alignment aid	Laser driver / Optional: alignment telescope
Supply voltage	10 V ... 30 V DC
Power consumption	< 5 W (without heating) 11,5 W (with heating at 24 V)
Operating temperature	- 40 °C ... + 60 °C
Storage temperature	- 40 °C ... + 70 °C
Humidity	15 % ... 90 %
Dimensions	136 mm x 57 mm x 104 mm
Weight	ca. 800 g (abhängig von Ausstattung)
Protection class	IP67

LDM301.xyz Configuration

x – Serial interface	1 RS232 2 RS422
y - Divergence / Meas. Time	0 1,7 mrad 0,5 ms 1 1,7 mrad 0,1 ms 2 10 mrad 0,5 ms 3 10 mrad 0,1 ms
z – Other interface	0 keine 1 SSI 2 Profibus DP
Standard LDM301 equipment	301.100 301.200 301.101 301.102

Technical drawing: