LDM 300 C

Laser distance measurement module

ASTECH
Angewandte Sensortechnik

Product description

The laser distance measurement module LDM 300 C enables to measure the distance to any back-scattering target surfaces, without reflector, rapidly and accurately. The used procedure of laser pulse time-of-flight measurement is particularly suitable for great measurement distances and rough industrial conditions. The extremely short measuring times enable distance measurements to and from moving objects. The device is designed for a fixed installation on-site. A light point sight can be mounted to provide an accurate alignment. A separate box is available for utilisation under extreme conditions. We offer a comfortable software for Windows NT/95 to configure the laser distance measurement module LDM 300 C.

Applications

- Measurement of distance and velocity
- Observation of movement and position
- Profile measurement
- Level measurement

Features

- Operation in extreme external temperature range with high accuracy and large range
- Large operating voltage range 10 ... 30 V/DC, < 5 W
- Range increase up to more than 1,500 m with additional reflectors on the target object
- Easy aiming at the notch and bead sighting set, far away located objects to be measured can be targeted with the optional light point sight
- Input of commands for the measuring functions and output of the measured values via a PC or laptop
- Separate programming of switching output and analogue output with different parameters
- Adjustable averaging time for distance measurement
- Output of measured values via the serial interface (RS232/ RS422) with free scaling factor
- Class 1 laser according to EN 60825-1:1997-03, eyesafe

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Technical Data

Measuring range[1]	**0.5 m to 400 m** on white surface up to 200 m on earth and concrete more than 1500 m on plastic reflector
Measurement accuracy [2,3]	**5 cm** in -10°C to +40°C temperature range 10 cm in -20°C to +60°C temperature range
Resolution of measured values	1 mm, freely scaleable
Statistical scatter[4]	**7 cm** **2 cm** **1 cm**
with a measuring time of	10 ms 100 ms 1 s
Average time	**10 ms** up to **10 sec.** (programmable)
Laser divergence[5]	3 mrad
Laser classification	Class 1 laser according to EN 60825-1:1997-03
Operating temperature	**-20 °C up to +60 °C**
Storage temperature	-40 °C up to +70 °C
Data interface[6]	**RS232/RS422** (switchable), baud rate 9600, format 8n1, adjustment of measuring functions, scaling and measuring time, output of the measured values, device internal temperature, error codes, external synchronisation
Switching output	Programmable switching threshold and hysteresis, "**high-side-switch**", maximum load up to 0,5 A
Analogue output[7]	current output **4 ... 20 mA**, load resistance ≤ 500 Ohm, programmable distance range limits, accuracy ± 0.15 %, stability < 50 PPM/°C
Supply voltage	**10 V to 30 V DC** voltage
Power consumption[8]	< 5 W
Dimensions	139,9 mm x 70,8 mm x 108,3 mm (L x W x H)
Mounting	2 threads, M6 x 6 mm deep
Protection class	**IP 65**
Weight	ca. **850 g**
Scope of delivery	LDM 300 C, interface cable, operating instructions

[1] Depending on target reflectivity, extraneous light influence and atmospheric conditions
[2] Reflection coefficient > 20 %
[3] Standard deviation
[4] On an even white surface perpendicular to the measurement direction, at a distance of 100 m
[5] At a distance of 100 m, the beam diameter is 0,3 m
[6] Units of measure m, dm, yard, feet, 100 inch with an resolution adjustable to 2 digits after the decimal point
[7] Only distance measurement
[8] Without the switched electrical load

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Accessories	Replacement interface cable, light point sight, connection box, protection housing, plastic reflector, software for Windows NT/95, Profibus Gateway

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