RIEGL LD90-3300 long-range distance meter

LD90-3300

Powerful distance and speed meter for long ranges and/or badly reflecting targets: Height-of-flight measurements on planes or helicopters, tide gage in hydrography, level measurement in large coal silos, etc.

Measuring range depending on the reflection coefficient **ρ** of the target								
good, diffusely reflecting targets, **ρ** ≥80%								up to 400 m [1]
bad, diffusely reflecting targets, **ρ** ≥10%								up to 120 m [1]
Reflecting foil [2] or plastic cat´s-eye reflectors								> 1000 m
Minimum distance, typically								2 m
Distance measurement:								
Accuracy [3]								typically ±50 mm
Measuring time (ms or s) [4]	10ms	20ms	50ms	0.1	0.2	0.5	1	2
Statistical deviation (cm) [5]	±10	±7	±5	±3	±2	±1.5	±1	±0.7
Resolution (cm) [5][6]	10	10	5	5	2	2	1	1
Speed measurement:								
Measuring range								0 to ±30 m/s
Accuracy								±0.5 m/s
Measuring time, typically [4]								0.5 s
Divergence of the infrared measuring beam [7]								1.6 mrad

Laser product classification according to IEC60825-1:2007

CLASS 1 LASER PRODUCT

The following clause applies for instruments delivered into the United States:
Complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated June 24, 2007.

LD90-3300HR

High-Range version of LD90-3300 for use in ship-docking systems, for scanner applications, etc.

Measuring range depending on the reflection coefficient **ρ** of the target								
good, diffusely reflecting targets, **ρ** ≥80%								up to 500 m [1]
bad, diffusely reflecting targets, **ρ** ≥10%								up to 150 m [1]
Reflecting foil [2] or plastic cat´s-eye reflectors								> 1000 m
Minimum distance, typically								5 - 10 m
Distance measurement:								
Accuracy [3]								typically ±50 mm
Measuring time (ms or s) [4]	10ms	20ms	50ms	0.1	0.2	0.5	1	2
Statistical deviation (cm) [5]	±10	±7	±5	±3	±2	±1.5	±1	±0.7
Resolution (cm) [5][6]	10	10	5	5	2	2	1	1
Speed measurement:								
Measuring range								0 to ±30 m/s
Accuracy								±0.5 m/s
Measuring time, typically [4]								0.5 s
Divergence of the infrared measuring beam [7]								1.6 mrad

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1) Typical values for average conditions. In bright sunlight, the operational range is considerably shorter than under an overcast sky. At dawn or at night the range is even higher.
2) reflecting foil 3M 3000X or equivalent, minimum dimensions 0.45 x 0.45 m²
3) standard deviation, plus distance depending error ≤20 ppm
4) selectable via RS232/RS422
5) depending on measuring time
6) chosen automatically by the internal microprocessor
7) 1 mrad corresponds to 10 cm beamwidth per 100 m of distance

Selectable data processing modes

The characteristics of the instrument can be adapted to the actual measurement situation by choosing between four different data processing programs:

The program FAST enables the quickest possible measurement at undisturbed conditions simply by averaging the single-pulse distance values which are acquired within the selected measuring time.

The program STANDARD provides a very useful clutter suppression: occasional echo signals caused not by the target itself but by backscattering of particles between target and instrument (e.g. clouds of material in a dusty silo, or raindrops and snowflakes in free air) are eliminated and not taken into account.

The program MAXIMUM DISTANCE is optimized for undisturbed level measurements in a silo at the cost of a slightly higher acquisition time.

The program MINIMUM DISTANCE is ideal for measurements to small targets which are not easy to aim at, as it eliminates background echoes.

General technical data and dimensions as given in our general data sheet LD90-3 series.

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