



RIEGL LD90-31K-HiP "High Penetration", long-range distance meter

Laser Distance Meter for use without reflectors which, because of its "High Penetration" facility under conditions of bad visibility, is especially well suited for long-range ship-docking systems and for laser altimetry, etc.¹⁾

The LD90-31K-HiP can be equipped with a filter for attenuating the laser beam if Laser Class 1 is required:

	beam-attenuating filter not attached	beam-attenuating filter attached
Measuring range depending on the reflection coefficient ρ of the target ²⁾ good, diffusely reflecting targets, $\rho \geq 80\%$ bad, diffusely reflecting targets, $\rho \geq 10\%$ Reflecting foil ³⁾ or plastic cat's-eye reflectors	up to 1500 m up to 500 m 2500 m	up to 1000 m up to 350 m 2500 m
Laser product classification according to IEC60825-1:2007 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.	 Viewing the laser output with certain optical instruments designed for use at a distance (for example, telescopes and binoculars) may pose an eye hazard.	

Accuracy ⁴⁾ ⁵⁾	typically ± 5 cm, in the worst case ± 10 cm			
Resolution	1 cm			
Measuring time (s) ⁶⁾	0.3	0.5	1	2
Statistical deviation (cm) ⁷⁾	typically ± 5	± 3	± 2	± 1

Minimum distance ⁸⁾	1 m
Divergence of the infrared measuring beam ⁹⁾	approx. 1.6 mrad
Data interface	RS232 & RS422 (selectable), baud rate between 300 Bd and 38.4 kBd

- 1) last, first, or strongest target return selectable
- 2) Typical values for average conditions and for measuring time of 2 seconds. In bright sunlight, the operational range is considerably shorter than under an overcast sky. At dawn or at night the range is even higher.
- 3) reflecting foil 3M680 or equivalent, size 0.45 x 0.45 m²
- 4) standard deviation, plus distance depending error 20 ppm
- 5) ≥ 5 min after power up
- 6) adjustable via RS232/RS422 or self-adapting
- 7) depending on measuring time
- 8) minimum distance 5 m for full accuracy with retroreflecting targets
- 9) 1 mrad corresponds to 10 cm beamwidth per 100 m of distance

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

Information contained herein is believed to be accurate and reliable. However, no responsibility is assumed by RIEGL for its use. Technical data are subject to change without notice. Data sheet RIEGL LD90-31K-HiP, 25/03/2010



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