RIEGL Laser Distance Meters

The sensors of the **LD05 Series** are based on precise time-of-flight laser range measurement. Using state-of-the-art signal processing technique the sensors provide accurate distance measurement for even complex multi-target situations, e.g. under bad visibility conditions due to rain, fog, dust, etc.

A lightweight stable aluminium housing, basic types with pre-configured measurement modes, as well as possible adaptions to customer specific applications make the LD05 distance meters suitable for a variety of applications in harsh industrial environments.

For operation in extremely exposed environments (like high temperature areas), the distance meters of the **LD05-GF Series** are offered. They consist of an optical head and a separate electronics unit connected by a duplex glass-fiber cable of variable length from 3m to more than 50m. Electronics unit and optical head can be mounted separately according to the requirements resulting from critical environmental conditions.

RIEGL LD05 Series

High-Reliability Laser Distance Meters for Demanding Industrial Applications

Typical Applications

• industrial distance and speed sensing • collision avoidance for cranes and vehicles • level measurement in silos • laser altimeter • sensor for ship docking systems • distance measurements in high-temperature areas • level measurement of liquid steel in melting pots or in transfer ladles • measurement of the position, width, and thickness or glowing slabs in rolling mills • crane coordinate measurement

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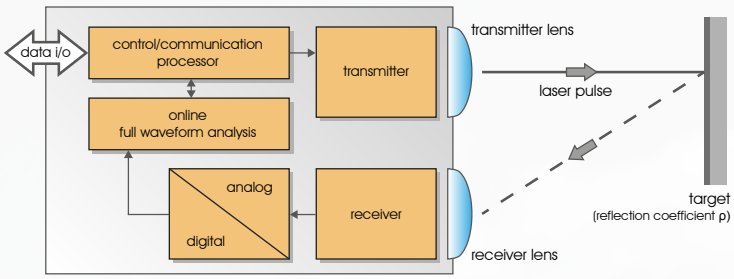
RIEGL LD05 Series Overview

Instrument Type	Laser Class	Range Reflectorless ρ ≥ 80%	Range Reflectorless ρ ≥ 10%	Range with Retro-reflector	Accuracy (typical)	Update Rate	RS-232	RS-422 High Speed	TCP/IP	4-20 mA	0-10 V	2 x PNP Switching Output	PROFIBUS Interface Module
RIEGL Laser Distance Meter Series "LD05"													
Lasertape LD05e-A10 	1M	300 m 170 m 120 m	90 m 60 m 40 m	1300 m 900 m 600 m	± 20 mm ± 20 mm ± 20 mm	10 Hz 100 Hz 2000 Hz	✓	✓		✓	✓	✓	✓
LD05e-A30 	1M	800 m 450 m 300 m	260 m 150 m 100 m	2500 m 2100 m 1400 m	± 20 mm ± 20 mm ± 20 mm	10 Hz 100 Hz 2000 Hz	✓	✓		✓	✓	✓	✓
LD05e-HT 	1M	for high temperature targets (800 °C - 1450 °C)			± 20 mm ± 20 mm	10 Hz 100 Hz	✓	✓		✓	✓	✓	✓
LD05-A20 	1M	500 m 250 m 200 m	150 m 80 m 60 m	2200 m 1200 m 1000 m	± 12 mm ± 15 mm ± 20 mm	100 Hz 2500 Hz 10000 Hz	✓	✓	✓	✓		✓	✓
LD05-A30 	1M	750 m 380 m 310 m	250 m 130 m 100 m	2300 m 1800 m 1500 m	± 12 mm ± 15 mm ± 20 mm	100 Hz 2500 Hz 10000 Hz	✓	✓	✓	✓		✓	✓
LD05-A40 	1M	900 m 470 m 390 m	300 m 160 m 130 m	2400 m 2200 m 1900 m	± 12 mm ± 15 mm ± 20 mm	100 Hz 2500 Hz 10000 Hz	✓	✓	✓	✓		✓	✓
LD05e-A30-PH67 	1M	1500 m	550 m	2500 m	± 25 mm	1 Hz		✓					

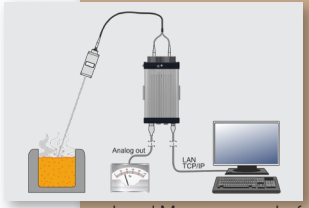
RIEGL LD05-GF Series Overview

Instrument Type / Measuring Head Type	Laser Class	Range Reflectorless ρ ≥ 80%	Range Reflectorless ρ ≥ 10%	Range with Retro-reflector	Accuracy (typical)	Update Rate	RS-232	RS-422 High Speed	TCP/IP	4-20 mA	0-10 V	2 x PNP Switching Output	PROFIBUS Interface Module
RIEGL Laser Distance Meter Series "LD05-GF" with OPTICAL HEAD													
LD05-HTGF / MK36-xx 	1M	for high temperature targets (800 °C - 1600 °C)			± 10 mm ± 15 mm	100 Hz 1000 Hz	✓	✓	✓	✓		✓	✓
LD05-A10GF / MK36-xx 	1M	250 m 130 m 100 m	90 m 45 m 35 m	1100 m 600 m 500 m	± 8 mm ± 10 mm ± 14 mm	100 Hz 2500 Hz 10000 Hz	✓	✓	✓	✓		✓	✓

Measuring Principle



An electrical pulse generator periodically drives a semiconductor laser transmitter, emitting infrared laser pulses, which are collimated and emitted by the transmitter lens. A receiver converts the optical echo signal into an electrical signal, which is digitized internally and subsequently processed by a subsystem for on-line full waveform analysis. Sophisticated algorithms optimize the instruments' capabilities to measure the desired target even in the presence of smoke, rain, fumes, or dust.



Level Measurement of Liquid Steel in Melting Pots

LD05-HTGF with Optical Measuring Head

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