

Applications of **RIEGL** Laser Instruments

Problem: Position of a "Trencher" machine in a coal power plant.

Solution:



Description:

This is a basic positioning application. This "Trencher" machine is totally automated. The LD90-450 replaced mechanical encoders and proximity switches. Note that the cost was justified as the mechanical system failed frequently and had to be reset several times a day. Now it only takes 15-20 minutes to reset the system.

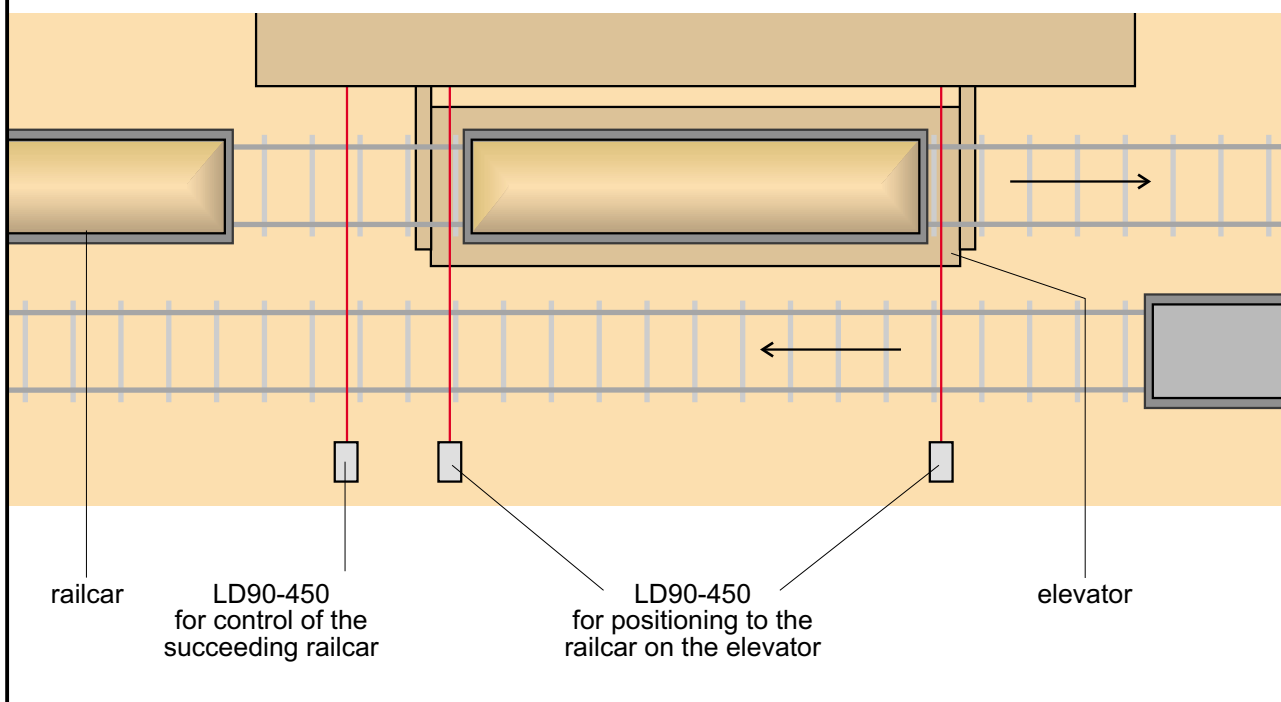
Performance:

- ✗ Measuring range up to 150 m
- ✗ Accuracy typ. ± 25 mm
- ✗ Resolution ± 10 mm

Applications of **RIEGL** Laser Instruments

Problem: Accurately position railcars on an elevator lift under dusty or heavy rainfall conditions.

Solution: Employ two Laser Distance Meters LD90-450 to determine the correct position of the railcar on the elevator and a third LD90-450 for monitoring the position of the succeeding railcar. With no railcar present each LD90-450 measures distance to a passive target. As a railcar moves in front of the LD90-450 its presence is detected as a change in distance measurement. A railcar in the line of sight to two LD90-450's is properly positioned on the elevator.



Key features:

- ✓ "High Penetration" feature offers reliable operation in dusty or rainy environments
- ✓ Narrow measurement beam (3 cm) offers very accurate performance in "break the beam" type applications
- ✓ Transmitter / receiver are co-located so misalignment is never a problem. Reference target is passive
- ✓ False detections are extremely unlikely as the sensor offers actual "distance" information and not simply discrete PRESENT / NOT PRESENT output.
- ✓ Fast real-time output available.

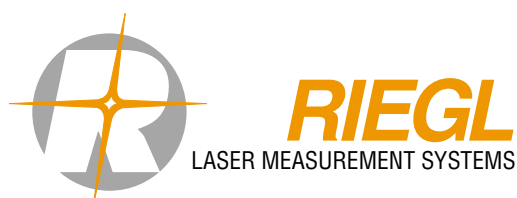
Performance: LD90-450 LD90-3200HiP

	LD90-450	LD90-3200HiP
Measuring range	up to 150 m	up to 150 m
Distance measurement accuracy	±25 mm	±50 mm
Lateral Positioning Accuracy (funktion of beamwidth)	2 cm	3 cm

Accessories:

- ☞ Industrial enclosure featuring pan/tilt mount for easy aiming, lens protection tube with fittings for air purge, 12 guage steel construction and NEMA 12 classification
- ☞ 110 VAC, 220 VAC, 24 VDC optional power supplies
- ☞ Visible beampointer to facilitate alignment

(Continued on the next page)



Application Note
AN-TA053

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LD90-450
in industrial enclosure
with lens protection tube



LD90-450
in industrial enclosure (open)
with lens protection tube