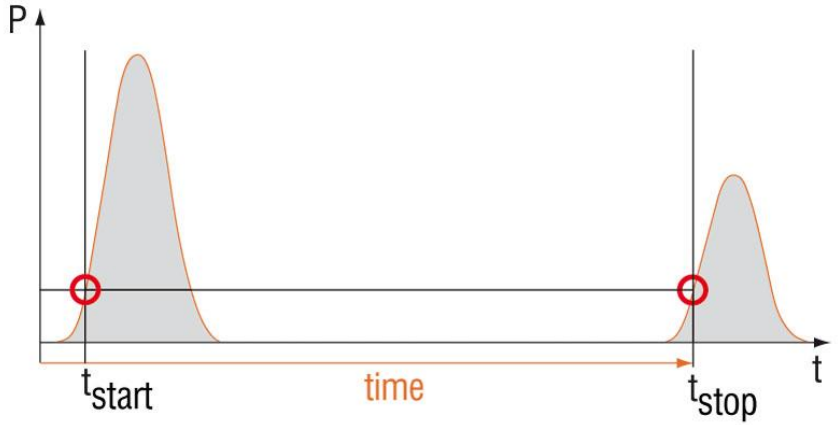
Laser distance sensors

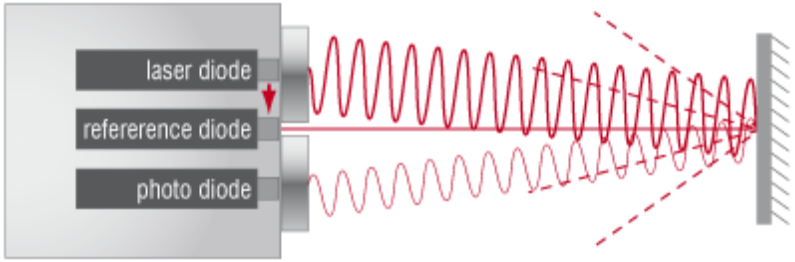
Measuring principle
Phase comparison principle

Laser light is permanently transmitted to the object; sensor electronic compares the phase offset of the signals



Measuring principle time of flight

Measuring time until the reflected laser pulse is back at the sensor



Laser distance sensors

optoNCDT ILR

- Measuring area:
  up to 300m (without reflector)
  up to 3000m (with reflector)
- High repeatability
- Short response times
- High measuring rate
  for fast applications
- Compact design
- For applications in storage and
  conveyor technology, position monitoring
  for machines and systems as well as
  attendance checking and type classification

Lasertaster (Laser-Laufzeit)

optoNCDT ILR 1020/1100/1150
Compact and fast distance sensors
(without reflector)

- Measuring range up to 10 m
  on diffuse reflecting targets
- Short response time
- Excellent price-performance ratio
- Fast sensor configuration via touch keys

Measuring ranges	6 - 10m
Linearity	≤8mm
Repeatability	≤4mm
Response time	12ms

Laser-Distanzsensoren

optoNCDT ILR 1021/1101/1151
Compact and fast distance sensors
(with reflector)

- Measuring ranges up to 250 m with reflector
- Short response time
- Excellent price-performance ratio
- Fast sensor set configuration via touch keys

Measuring ranges	30 - 250m
Linearity	≤10mm
Repeatability	≤2mm
Response time	12ms

Laser distance sensors

optoNCDT ILR 1030 / 1031
Laser distance sensors for measurements against reflector

- Measuring range up to 8m on diffuse reflecting targets, up to 50m on direct reflecting targets
- Very short response time
- Small size
- Excellent price-performance ratio

Ranges	0.2 - 50m
Linearität	±20mm
Wiederholgenauigkeit	≤5mm
Ansprechzeit	10ms

Laser distance sensors

optoNCDT ILR 1181/1182/1183

State of the art laser distance sensor with high precision

- Ranges up to 80m on diffuse reflecting targets, up to 150m with reflector
- Option with integral heating
- Easy adjustment with Laser sighting
- Precise measurement on various surfaces

Measuring ranges	0.1 … 30m (diffuse surfaces)
	0.5 … max. 150m (reflector)
Repeatability	≤0.5mm
Response time	20ms

Laser distance sensors

optoNCDT ILR 1191

High-performance laser distance sensors

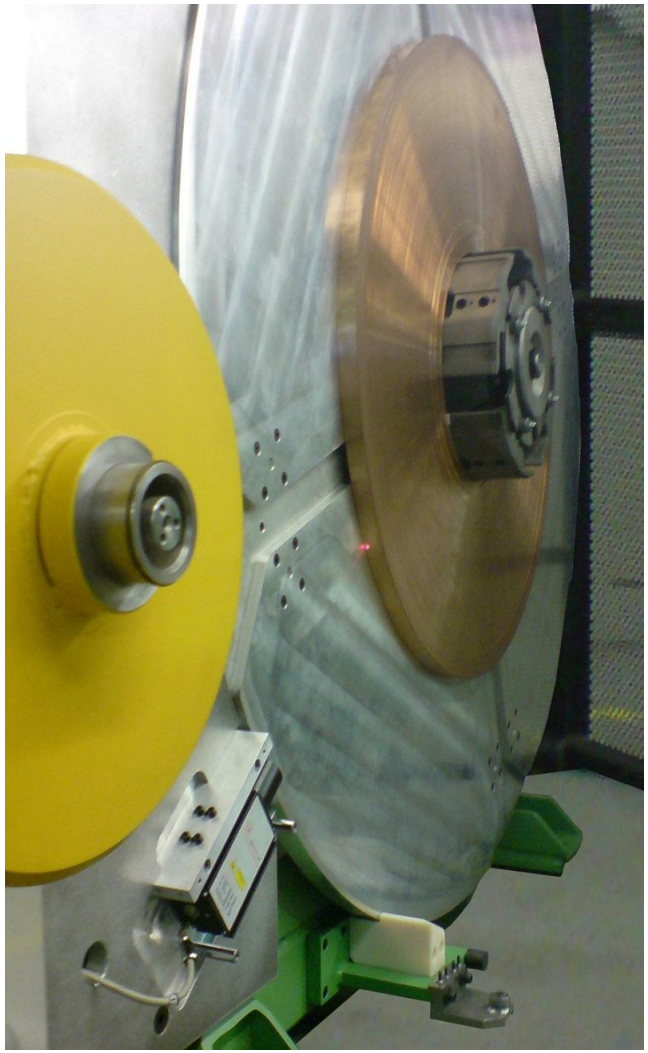
- Ranges up to 500m on diffuse reflecting surfaces, up to 3000m with reflector
- Distance and speed measurement
- Integrated heating
- For fast measuring events

Measuring ranges	0.5 … 300mm (diffuse surfaces) 0.5 … max. 3000m (reflector)
Repeatability	≤ 0.5mm
Response time	0.5ms (optional 0.1ms)

Application laser distance sensors

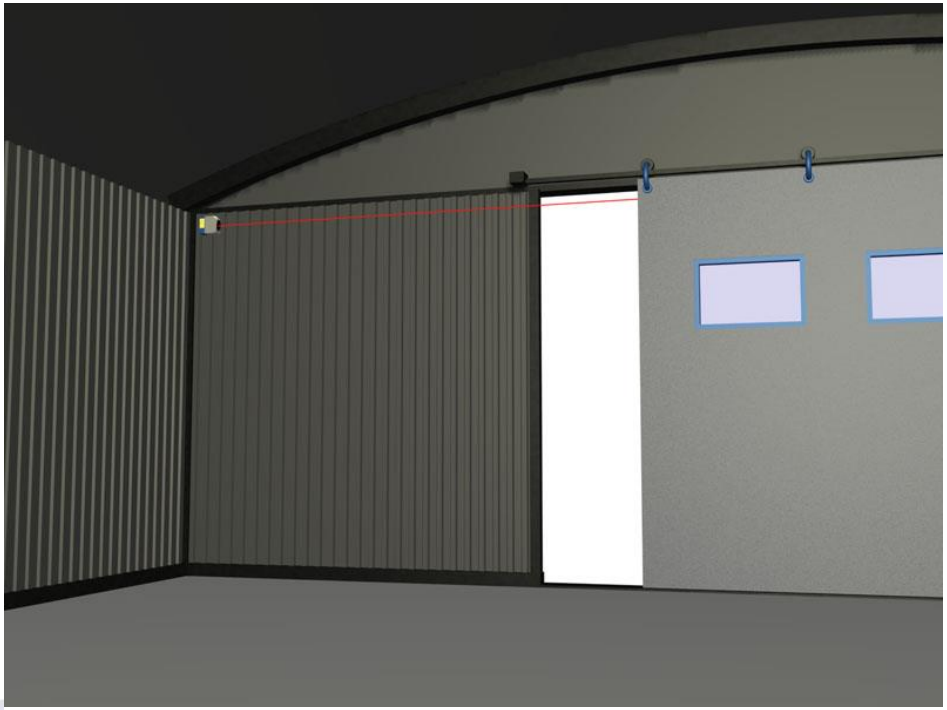
Traction control in precise rewinding machines

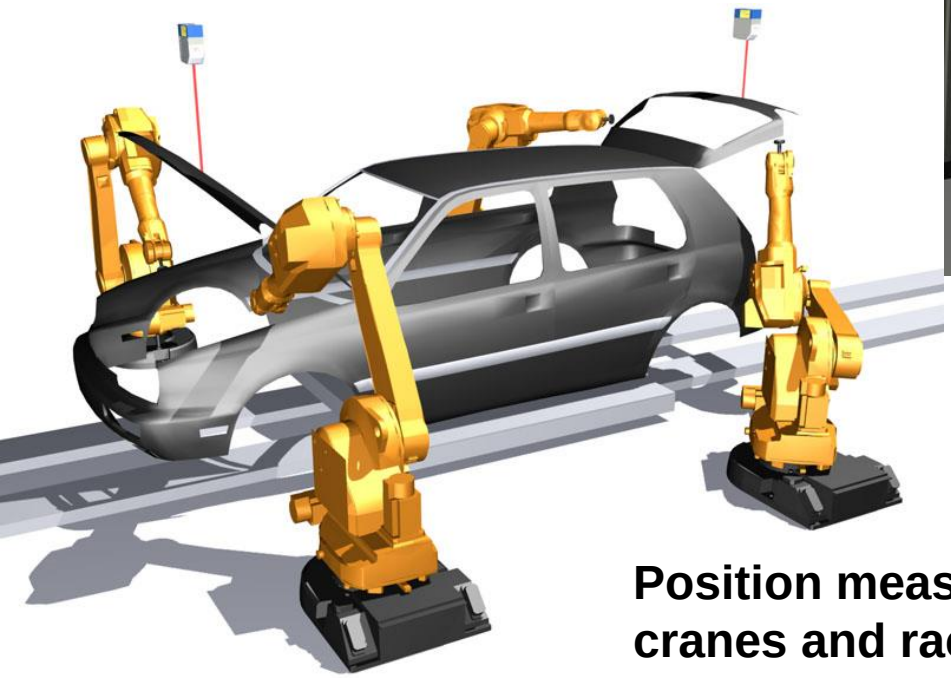
- Matt and high gloss surfaces
- Measurement on narrow strips, width from 5mm
- Accuracy ±3mm
- Teachable measuring range;
  1.5m is output from 4 to 20mA



Application laser distance sensors

Opening degree of gates and doors



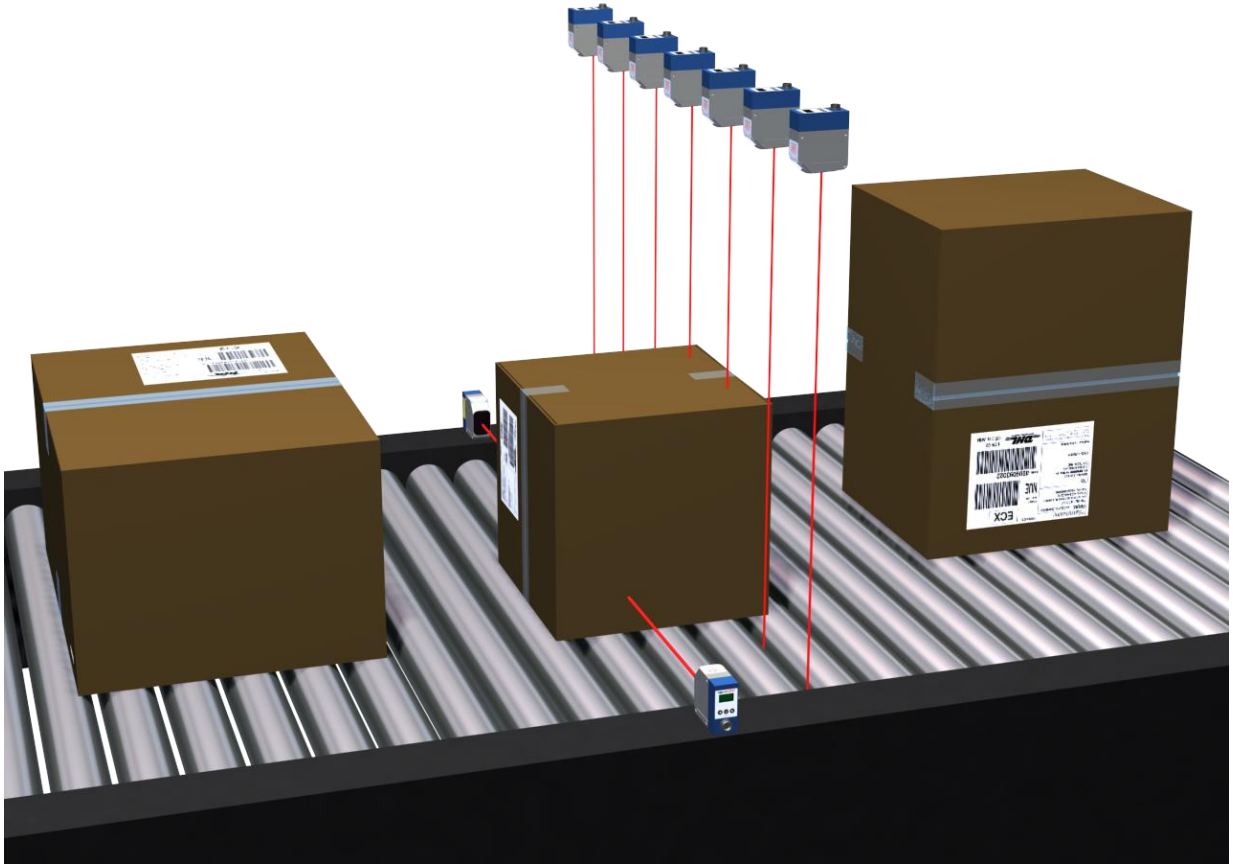


Position measurement of gantry cranes and rack control units

Application laser distance sensors

Package classification and sorting

- 3D measurement of packages
- Classification and sorting according to size



Application laser distance sensors

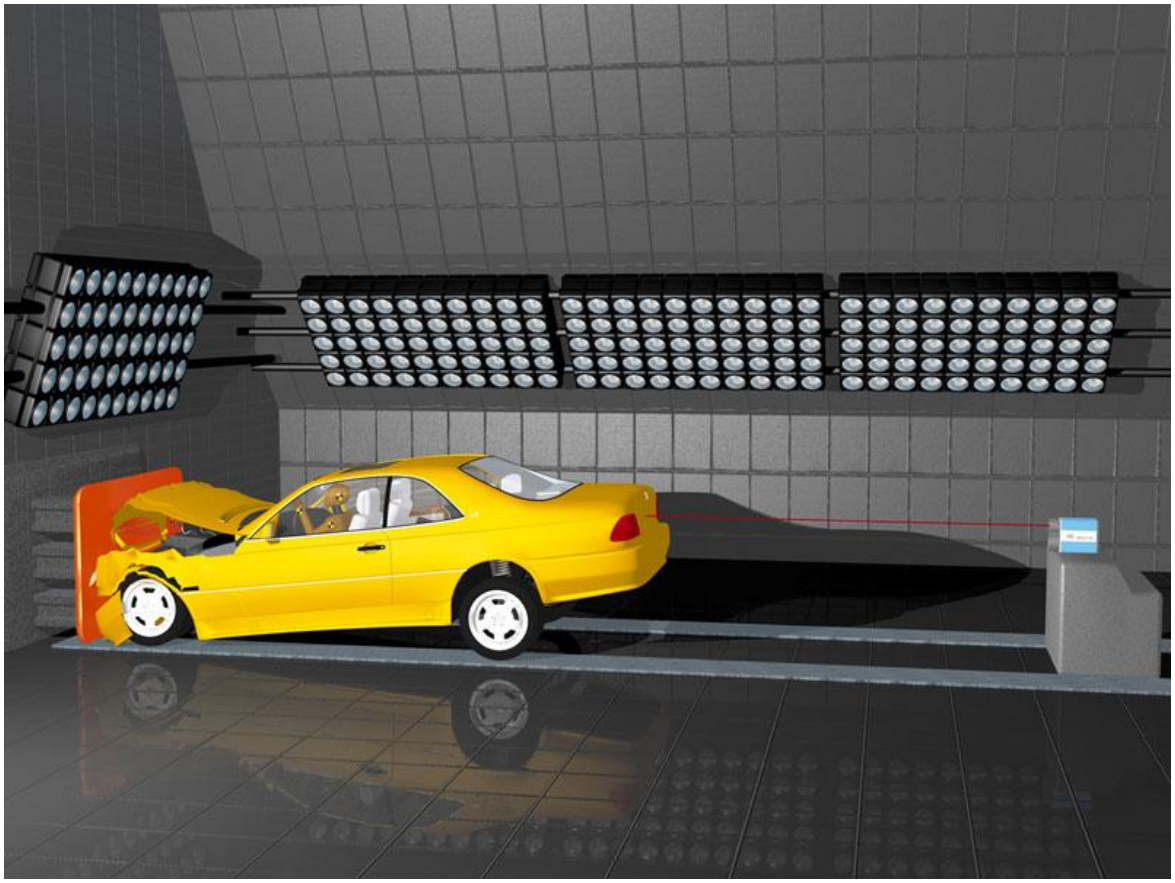
Aerial scan conducted with helicopters

For profile measurement of landscape, optoNCDT ILR sensors for height determination of the helicopter are used in addition to the camera.

Application laser distance sensors

Crash test speed measurement

At acceleration of cars during crash tests, an ILR1191 measures the impact speed and deformation of the test vehicle.



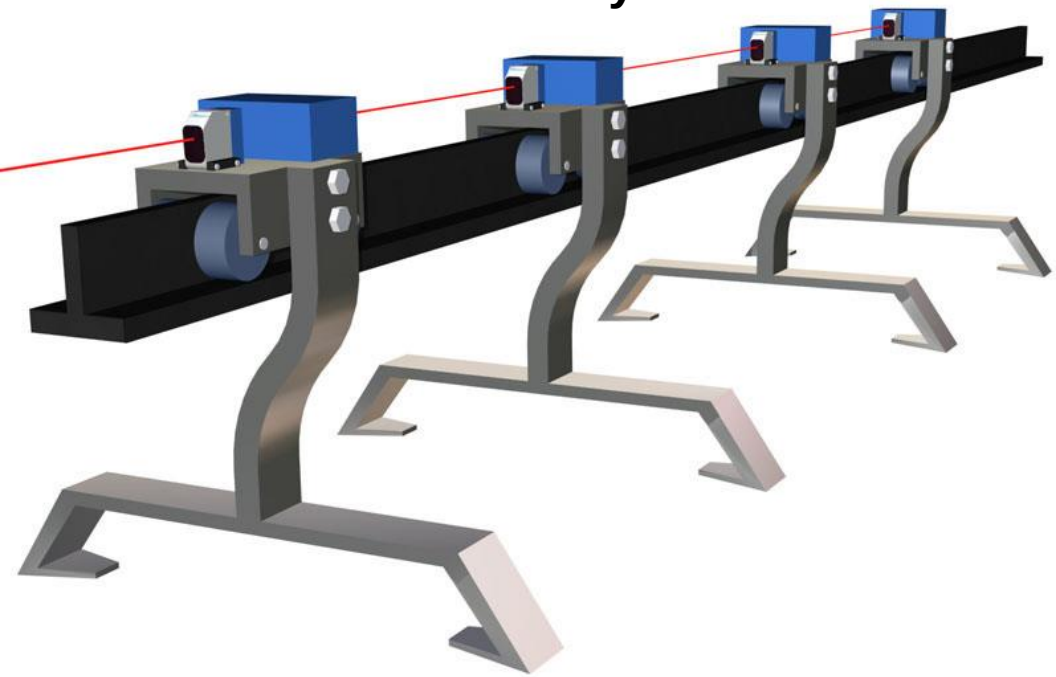
Application laser distance sensors

Position measurement of gantry cranes

Position measurement of gantry cranes and rack control units

Application laser distance sensors

Distance measurement of overhead conveyors



Filling level measurement in silos

Application laser distance sensors

Measurement of coil diameters

Monitoring the woand up / uncoiled amount of steel with coil diameters captured by a laser distance sensor.