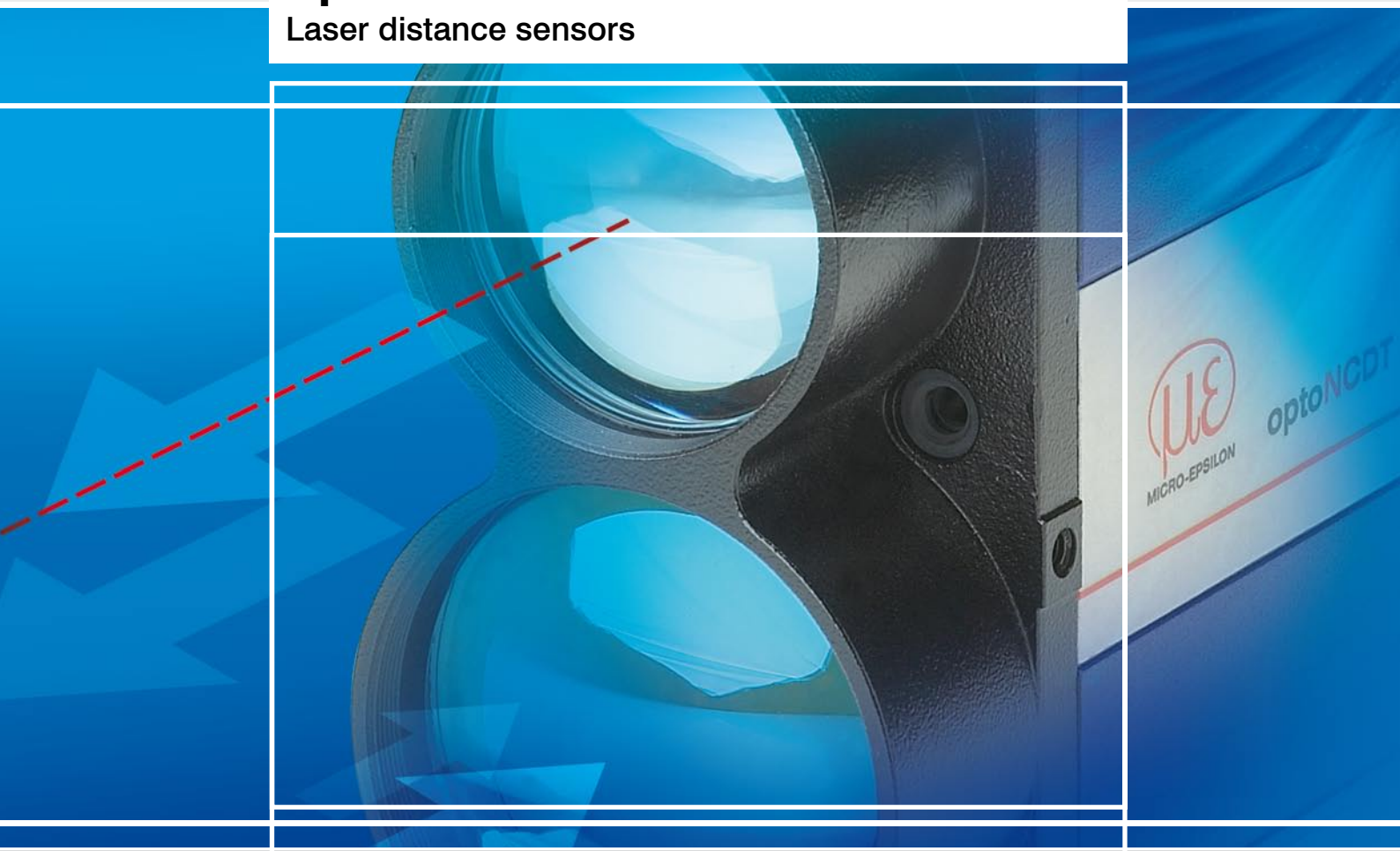
MICRO-EPSILON

More Precision.

optoNCDT ILR

Laser distance sensors



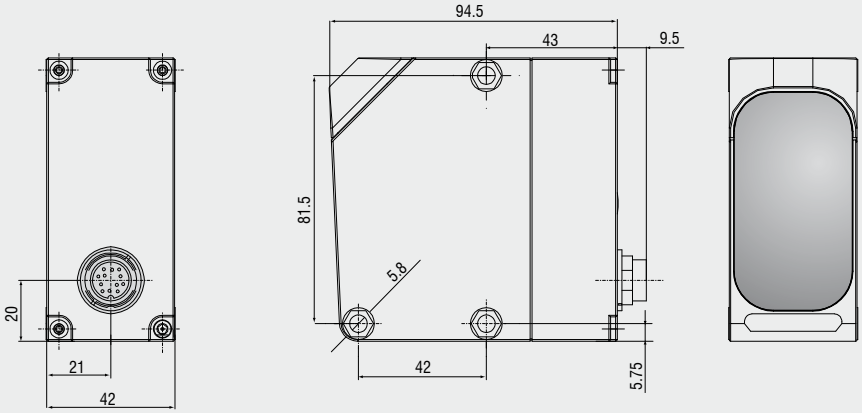
Advantages

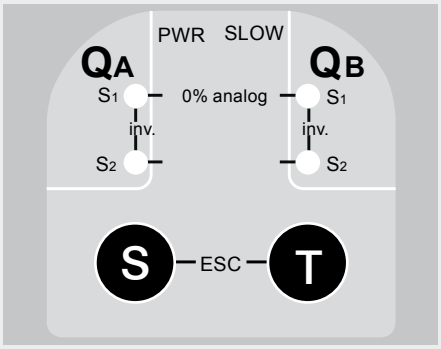
- Measuring range up to 10m on diffuse reflecting targets
- Short response time
- Excellent price-performance ratio
- Fast sensor set configuration via touch keys

Gaging sensors of the series optoNCDT 1020/1100/1150 are designed for non-contacting measurements at distances of up to 10m. These measurements are required for position determination, attendance checking, type classification and for machine control in numerous fields of application.

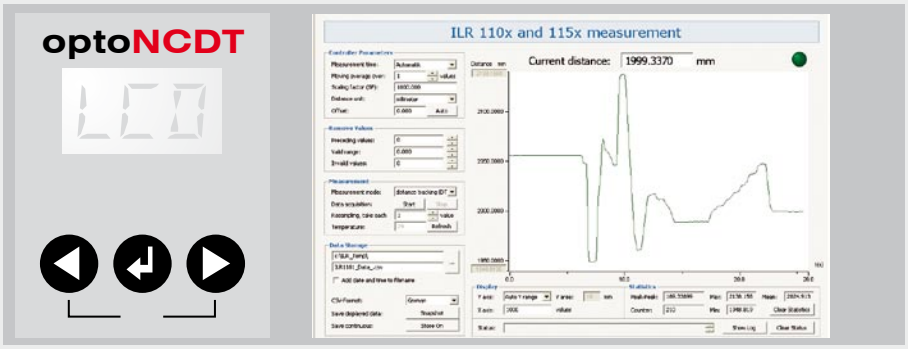
Precise sensor alignment

The aiming laser can be turned on for accurate alignment of the sensor with the measurement object. For mounting the sensor a mounting bracket and a fine adjuster are available as accessories, which simplify the precise alignment of the sensor to the measurement object.





ILR1020: Limit switch programming via touch keys



ILR1100/ILR1150: Limit switch programming via software

Model		ILR1020-6	ILR1100-6	ILR1150-10
Measuring range	black 6%	0.2 ... 2.5m	0.5 … 2m	0.5 … 3m
	grey 10%	0.2 ... 6m	0.5 m … 4m	0.5 … 7m
	white 90%	0.2 ... 6m	0.5 m … 6m	0.5 … 10m
Linearity		±40mm	±10mm	±8mm
Resolution		1 ... 5mm	0.1mm	0.1mm
Repeatability		±10 / ±15mm [1]	±5mm	±4mm
Response time		80 / 13ms [1]	12ms	12ms
Laser class	measuring laser	IR 905 nm, laser class 1	IR 900 nm, laser class 1	
	sighting laser	red 650 nm, laser class 2		
Operation temperature		-10° … +50° C (-20° … +50° C in continous operation)		
Storage temperature		-30° … +75° C		
Limit outputs		QA / QB (max. 100 mA)		
Switching points		free adjustable (teach in)	adjustable in 1-mm-steps	
Switching hysteresis		30mm	min. 20mm (adjustable)	min. 10mm (adjustable)
Plausibility output		-	QP (max. 50 mA)	
Service output		-	QS (max. 50 mA)	
Serial interface		-	RS422 (2.9ms at 57.6kBaud) SSI - compatible (GRAY / BINÄR adjustable) (SSI cycle 80µs)	
Bus interface		-	Profibus or DeviceNet via respective gateway (accessory)	
Analogue output		4 - 20mA		
Temperature stability		<1.2mm / °C	<0.5mm / °C	<±5mm absolute
Supply		18 - 30 VDC		
Max. consumption		<3W at 24V		
Connection		5-pin connector M12	12-pin connector M16	
Protection class		IP 67		
Material (housing)		ABS shock resistant		
Vibration	EN 60947-5-2	10 - 55 Hz, amplitude 1.5mm, period 5 min. at resonant frequency or 55 Hz, stress time 30 min. per axis		
Shock	EN 60947-5-2	acceleration 30 g, pulse duration 11 ms, half sinusoid, 3 shocks/axis		
Weight		appr. 200 g	appr. 230 g	
Accessoires		page 16 - 17		

All data regarding accuracy and distance are based on the specified surface
at constant ambient conditions and with a minimum operating time of 15 minutes.
[1] slow/fast

Operating Mode
Laser Class 1 (Infrared)

Setup Mode
Laser Class 2 (Visible - Red)
Do not stare into beam
λ: 650 nm
t_p: 0,25 µs; T: 2,5 µs
P_{max}: 3 mW

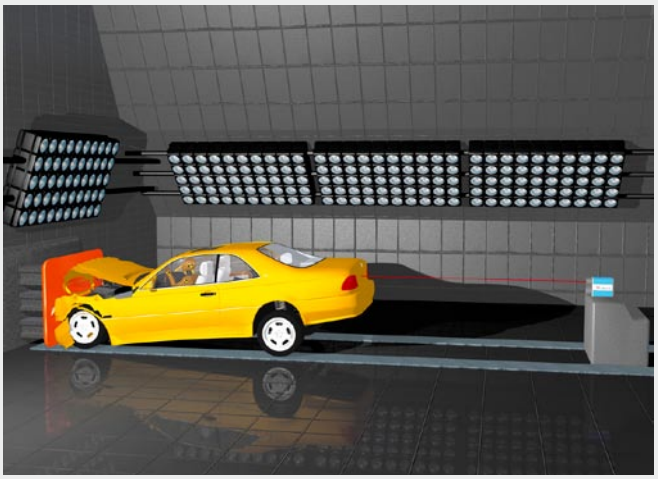
EN 60825-1. 10/2003

optoNCDT ILR 1020/1100/1150 use a semiconductor class 1 laser (operating mode) and a semiconductor class 2 laser (setup mode). With these classes no protection is needed.

Spot diameter ILR1020

Spot diameter ILR1100/1150

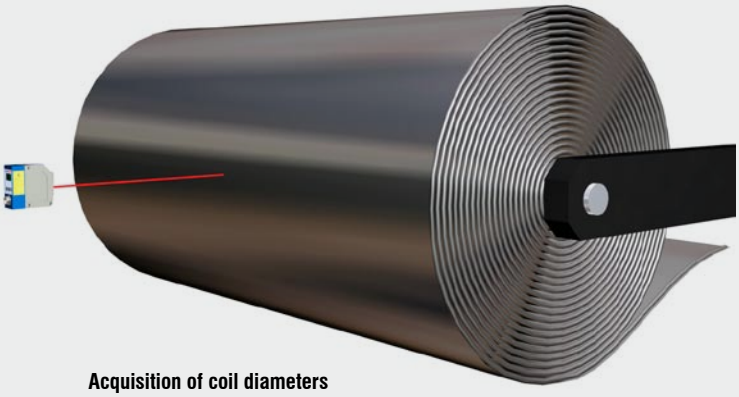
Applications



Speed measurement in the crash test
During the acceleration of vehicles in the crash test, an ILR1191 measures the impact speed and the deformation of the test vehicle.

Position measurement on gantry cranes
Numerous measurement tasks on gantry cranes must be performed: Positioning of the trolley, detection and dimensioning of containers and monitoring of the minimum clearance between the cranes. The ILR1191 with a very large measuring range and low response time is designed for these measurement tasks.

Level measurement in container, tanks and silos
Depending on the accuracy demanded, the filling level of silos is found at up to four points. The level is determined from these distances.



Acquisition of coil diameters
The quantities of steel, paper and fabric wound on and off are monitored via the acquisition of coil diameters using laser probes.

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