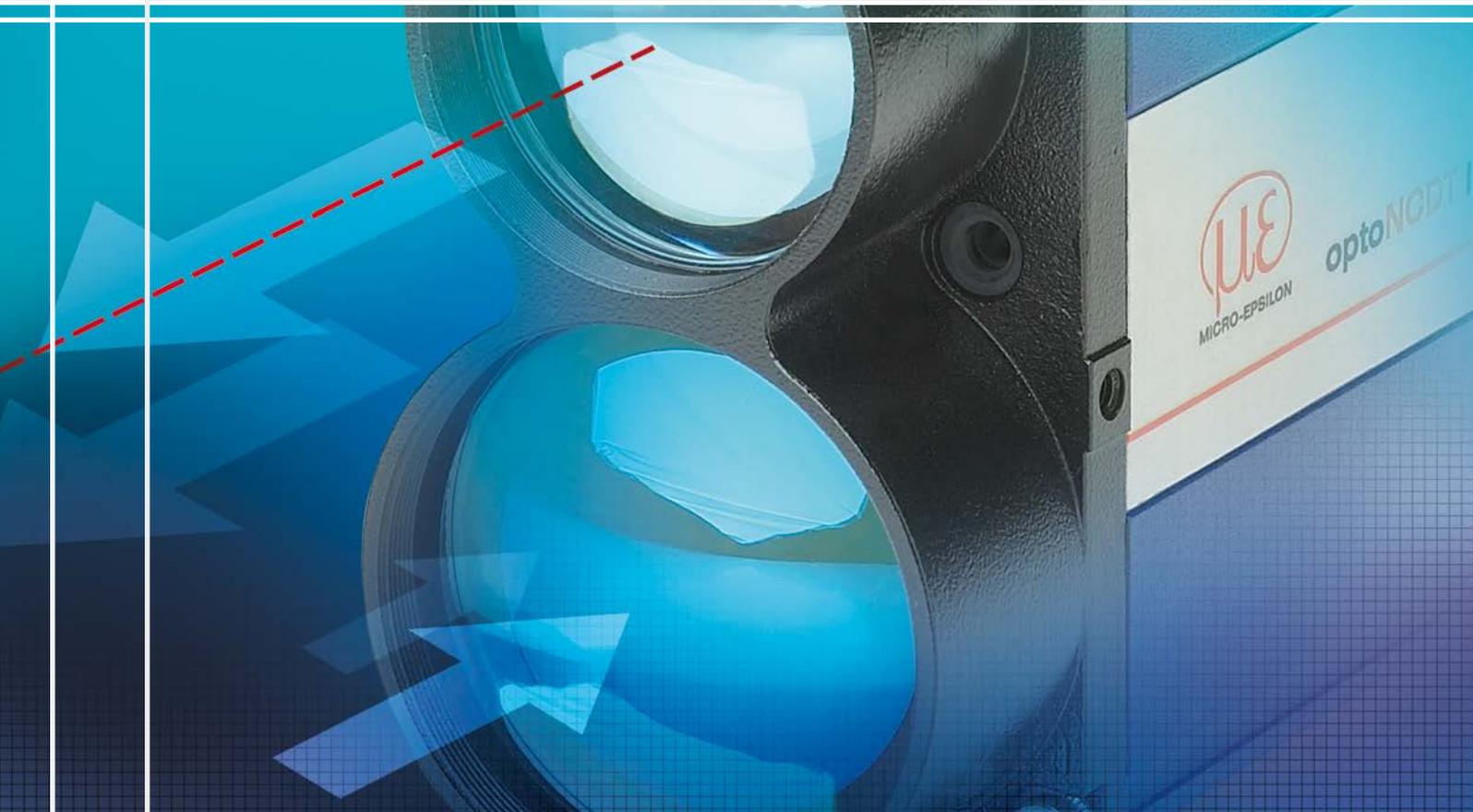# More Precision

**optoNCDT ILR //** Laser distance sensors

- *Measuring range 500m in diffuse reflecting surfaces, up to 3000m with reflector*

- *Distance and speed measurement*

- *Integrated heating*

- *For fast measuring events*

- *Easy installation*

- *Accessories for harsh environments*

Sensors in the optoNCDT ILR 1191 series are optoelectronic sensors for non-contact distance and speed measurement for industrial use. The sensor is designed for very large measuring ranges, with and without reflector. Due to the very high measuring rate of the sensor, moving objects can be measured easily. The sensor operates according to the laser pulse runtime principle and is therefore particularly well suited to applications with large distances.

Commissioning of the sensor is straightforward due to a variety of interfaces and easy mounting options. The optoNCDT ILR 1191 is fitted with an integrated heater for outdoor use. A sighting device is also integrated for alignment.
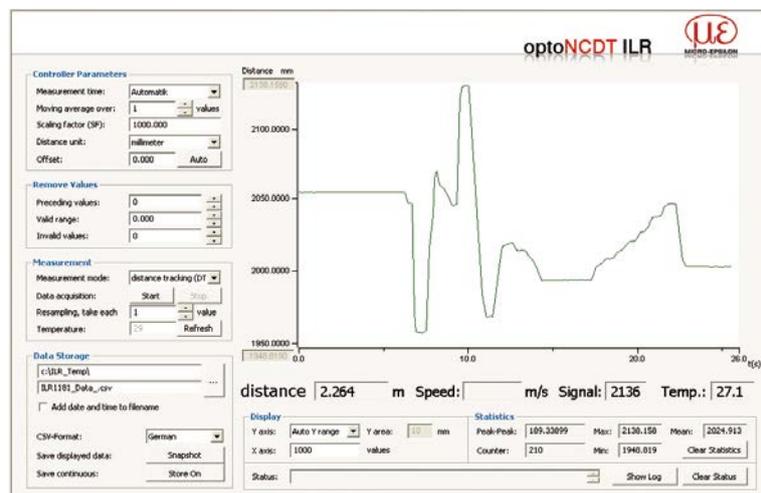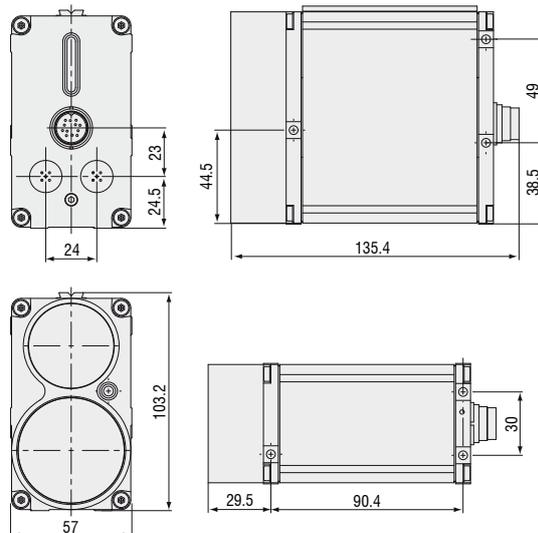
Configuration and measurement software for ILR1191

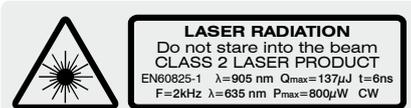| Model		ILR1191-300
Measuring range [1]	black 6%	1 ... 150m
	grey 10%	0.5 ... 200m
	white 90%	0.5 ... 300m
	reflector	300 ... 3000m
Speed		$0ms^{-1}$ ... $100ms^{-1}$
Linearity [2]		±20mm (at measurement output 100Hz) ±60mm (at measurement output 2kHz)
Resolution		1mm
Repeatability		≤20mm
Response time	distance measurement	0.5ms
	speed measurement	12ms
Laser class	measuring laser	905nm, laser class 1
	sighting laser	635nm, laser class 2
Operation temperature		-40°C … +60°C
Storage temperature		-40°C … +70°C
Limit outputs		QA/QB (max. 200mA)
Switching points		free adjustable
Switching hysteresis		free adjustable
Trigger input		trigger edge and trigger delay programmable, trigger pulse max. 30V
Serial interface		RS232 and RS422 with 1.2kBaud … 460.8kBaud SSI interface (RS422), 24Bit, Gray-encoded 50kHz … 1MHz
Profibus		RS485, 9.6 kBaud … 12MBaud
Operation mode		single/continuous measurement, external triggering (adjustable near field elimination), speed measurement
Analogue output		4 … 20mA (16 Bit DA)
Temperature stability		≤50ppm/°C
Supply		10 … 30 V DC
Max. consumption		<5W without heating, 11.5W with heating
Connection		1 x 12-pin M16, 2 x 5-pin M12 B-coded
Protection class		IP 67
Material (housing)		aluminium strangeness profile, powder-coated
Weight		800g (depends on equipment)
Vibration/Shock		500g, 0.5ms, 1 shock/axis (DIN ISO 9022-30-08-1)
		10g, 6ms, 1000 shocks/axis (DIN ISO 9022-3-31-01-1)
EMV		EN 61000-6-2, EN 55011
Accessoires		page 14 - 15

[1] depending on target reflectivity, stray light effects and atmospheric conditions
[2] with statistical spread of 95%

Product identification
ILR 1191 - 300 (0 x)

Serial interface
1= RS232
2= RS422
3= RS232 + SSI
4= RS232 + Profibus

LASER RADIATION
Do not stare into the beam
CLASS 2 LASER PRODUCT
EN60825-1 λ=905 nm Qmax=137μJ t=6ns
F=2kHz λ=635 nm Pmax=800μW CW

optoNCDT ILR 1191 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 ILR1191

measuring laser	45mm	155mm	240mm	538mm	5128mm
sighting laser	ø17mm	ø82mm	ø133mm	ø307mm	ø3007mm
	10m	75m	125m	300m	3000m

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