MICRO-EPSILON

More Precision.

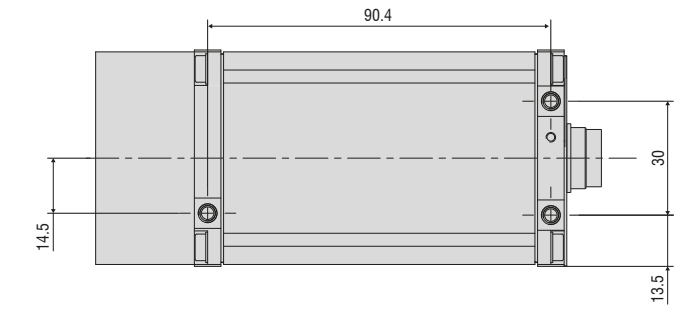
optoNCDT ILR // Laser-optical distance sensors

High-performance laser distance sensor for industrial applications
optoNCDT ILR1191-300

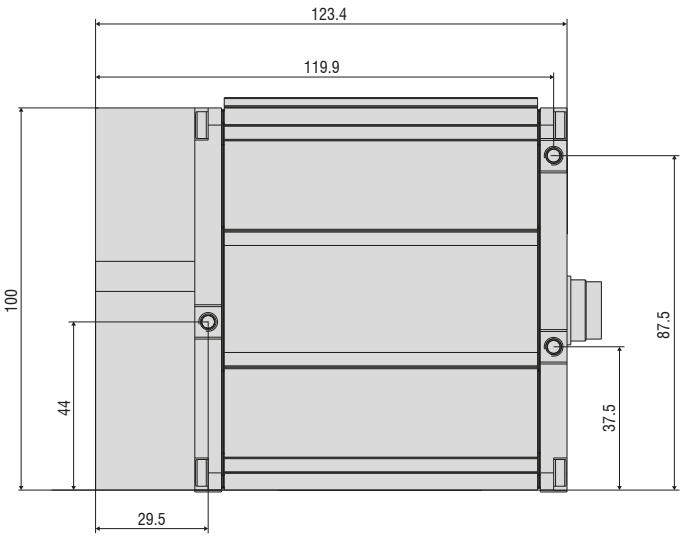
- Measuring range up to 300 m, (with reflector 3000 m)
- Distance and speed measurements
- Measurement laser: laser class 1
  Sighting laser: laser class 2
- IP67 Robust design IP67
- Very high measuring rate for fast applications
- Integrated heating

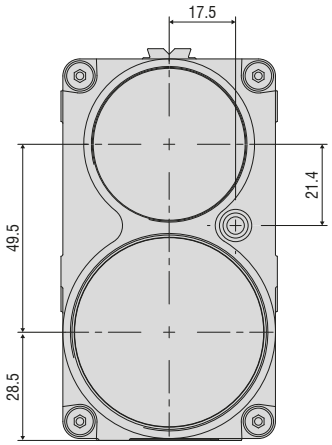
optoNCDT ILR 1191 sensors are optoelectronic sensors for non-contact distance and speed measurement in industrial applications. The sensor is designed for very large measuring ranges, with and without reflector. Due to the very high measuring rate of the sensor, moving objects can be measured easily. The sensor operates according to the laser pulse time-of-flight 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 installation options. For outdoor use, the optoNCDT ILR 1191 is equipped with integral heating and protected to IP67.

Models with serial interface



(dimensions in mm, not to scale)

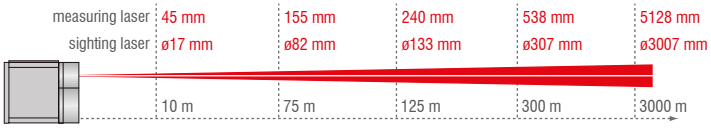




Model		ILR1191-300	
Article number		7112010	
Measuring range [1]		SMR	EMR
	black 6 %	8 m	150 m
	gray 10 %	0.5 m	200 m
	white 90 %	0.5 m	300 m
	Reflector film [4]	0.5 m	3,000 m
Measuring range/speed		0 … 100 m/s	
Measuring rate	Distance measurement	2,000 Hz	
	Speed measurement	80 Hz	
Resolution		1 mm	
Linearity [2]		< ±20 mm (at measurement output 100 Hz); < ±60 mm (at measurement output 2 kHz)	
Repeatability [3]		<20 mm	
Temperature stability		≤ 20 ppm / K	
Light source	Measuring laser	Semiconductor laser < 1 mW, 905 nm (infrared)	
	Sighting laser	Semiconductor laser < 1 mW, 635 nm (red)	
Laser class	Measuring laser	Class 1 in accordance with DIN EN 60825-1:2014	
	Sighting laser	Class 2 in accordance with DIN EN 60825-1:2014	
Permissible ambient light		50,000 lx	
Supply voltage		10 … 30 VDC	
Power consumption		< 5 W (< 11.5 W with heating)	
Signal input		Trigger	
Digital interface		RS232; RS422 (max 230.4 kBaud)	
Analog output		4 … 20 mA (16 Bit DA)	
Switching output		Q1 / Q2 (max 200 mA)	
Connector		12-pin M16 connector for supply/RS232/RS422; (connection cable see accessories)	
Assembly		Through-holes M4x6	
Temperature range	Storage	-40 … +70 °C	
	Operation	-40 … +60 °C	
Shock (DIN EN 60068-2-29)		15g / 6 ms in 3 axes, 1000 shocks	
Vibration (DIN EN 60068-2-6)		10 g / 10 … 500 Hz in 3 axes, 10 cycles each	
Protection class (DIN EN 60529)		IP67	
Material		Aluminum housing	
Weight		800 g	
Control and indicator elements		5x LEDs for target, status, switching state and link	
Special features		-	

SMR = Start of measuring range, EMR = End of measuring range
The specified data apply for a consistent room temperature of 20 °C, sensor is continuously in operation. Measured on white, diffuse reflecting surface (reference ceramic)
[1] Depends on the reflectivity of the target, ambient light interference and atmospheric conditions
[2] Statistical spread 2 σ
[3] Measurement frequency of 100 Hz, moving average 10
[4] ILR-RF250 reflector film 250 x 250 mm; article no: 7966001

Spot diameter ILR1191



Article description
ILR 1191 - 300 (0 x)

Serial interface
1= RS232
2= RS422

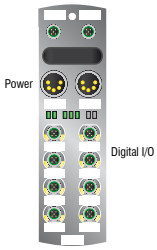
optoNCDT ILR 1191 use a semiconductor class 1 laser (operating mode) and a semiconductor class 2 laser (setup mode). Devices of this laser classes require no special safety precautions.

Accessories
optoNCDT ILR

Accessories optoNCDT ILR103x/LC1

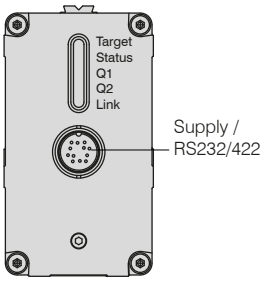
Connection	Interface modules	Connection cables	Sensor	Accessories
Supply/PLC Power supply unit PS2031 Art. no.: 2420096 		Supply and output cable Art. no.: 2901232 (2 m) 2901233 (2 m, 90°) 2901234 (5 m) 2901235 (5 m, 90°) 2901268 (10 m, 90°) 29011248 (10 m) 		Reflector 250 x 250 mm Art. no.: 7966001
Digital output/Ethernet 	IF1032/ETH Art. no.: 2420066 			

Accessories optoNCDT ILR2250-100 / ILR2250-100-H / ILR2250-100-IO

Connection	Interface modules	Connection cables	Sensor	Accessories
Supply/PLC Power supply unit PS2031 Art. no.: 2420096 		Supply and output cable Art. no.: 2901524 (3 m) 2901239 (3 m, 90°) 2901573 (5 m) 2901240 (5 m, 90°) 2901236 (10 m) 2901241 (10 m, 90°) 2901237 (20 m) 2901242 (20 m, 90°) 2901238 (30 m) 2901243 (30 m, 90°)	ILR2250-100 ILR2250-100-H 	Reflector 210 x 297 mm Art. no.: 7966058
PLC Ethernet 	IF2030 for PROFINET Art. no.: 2420087 IF2030 for EtherNet/IP Art. no.: 2420088 			Air purge collar Art. no.: 7966062
Digital output/Ethernet 	IF2001/USB Art. no.: 2213025 			Protective glass Art. no.: 7966061
	IC2001/USB Art. no.: 2213041 			
	IF1032/ETH Art. no.: 2420066 			Filter glass Art. no.: 7966063 ILR-NDF 0.75 7966066 ILR-NDF 0.5 7966068 ILR-NDF 0.9
	IF2004/USB Art. no.: 2213024 	Art. no.: 29011342 (3 m) 29011347 (5 m) 29011348 (10 m) 29011372 (20 m) 2x 2901528 (0.3 m)		
PLC Ethernet 	IF2008/ETH for 8 sensors Art. no.: 2213030 	Art. no.: 29011107 (5 m) 29011398 (3 m) 		
	IO-Link master 	IO-Link standard cable Art. no.: 29011362 (5 m) 29011363 (10 m) 29011364 (15 m) 	ILR2250-100-IO Sensor + adapter cable (0.3 m) IO-Link inside 	

Accessories
optoNCDT ILR

Accessories optoNCDT ILR1191-300

Connection	Interface modules	Connection cables	Assembly	Accessories
Supply/PLC Power supply unit PS2031 Art. no.: 2420096 		Supply and output cable Art. no.: 2901524 (3 m) 2901239 (3 m, 90°) 2901573 (5 m) 2901240 (5 m, 90°) 2901236 (10 m) 2901241 (10 m, 90°) 2901237 (20 m) 2901242 (20 m, 90°) 2901238 (30 m) 2901243 (30 m, 90°) 	Electrical connections 	Reflector 250 x 250 mm Art. no.: 7966001
Digital output/Ethernet 	IF2001/USB Art. no.: 2213025 			Mounting plate Art. no.: 7966014
	IF1032/ETH Art. no.: 2420066 			Protection tube Art. no.: 7966016
				Alignment aid Art. no.: 7966060

Sensors and Systems from Micro-Epsilon

Sensors and systems for displacement, position and dimension

Sensors and measurement devices for non-contact temperature measurement

Measuring and inspection systems for quality assurance

Optical micrometers, fiber optics, measuring and test amplifiers

Color recognition sensors, LED Analyzers and inline color spectrometers

3D measurement technology for dimensional testing and surface inspection

Modifications reserved / Y9761278-D022033SVA

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