MICRO-EPSILON

More Precision

optoNCDT ILR104x // Compact and reliable laser distance sensor

Compact and reliable laser distance sensor
optoNCDT ILR104x

- Measuring ranges 10 and 60 m (with reflector)
- Ideal for series applications in the automation industry
- Laser class 1
- Robust design IP67 / IP69 / IP69K
- Fast response time
- Compact & lightweight design

Compact and reliable laser sensor

The optoNCDT ILR104x laser distance sensors are designed for industrial distance measurements. These sensors achieve measuring ranges up to 10 meters without reflector film and 60 meters with reflector film. They are characterized by a high protection class and resistance to ambient light. Due to their rotatable cable outlet and their compact design, these sensors can also be installed in difficult-to-access and narrow places.

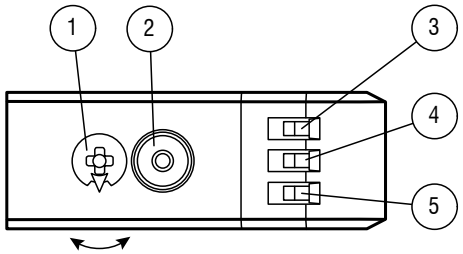
The optoNCDT LR104x sensors can be put into operation quickly and easily via the IO-Link interface. Operation of the sensor is supported by keys and LEDs.

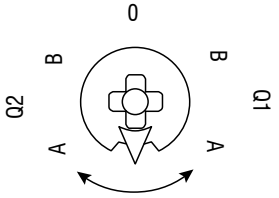
Time-of-flight principle

The ILR104x distance sensors use the time-of-flight measuring principle for accurate, reliable, clear and reproducible results. They achieve precise measurement results regardless of surface texture, dark object colors or ambient light. The ILR104x series sensors use a class 1 laser.

Versatile use

The compact sensors are designed for automation and are used for presence detection and collision monitoring, for example. Their robust plastic housing with IP69K protection class, the 50,000 lx ambient light resistance and a wide temperature range of -30 to +60 °C make these sensors the ideal choice for numerous applications.





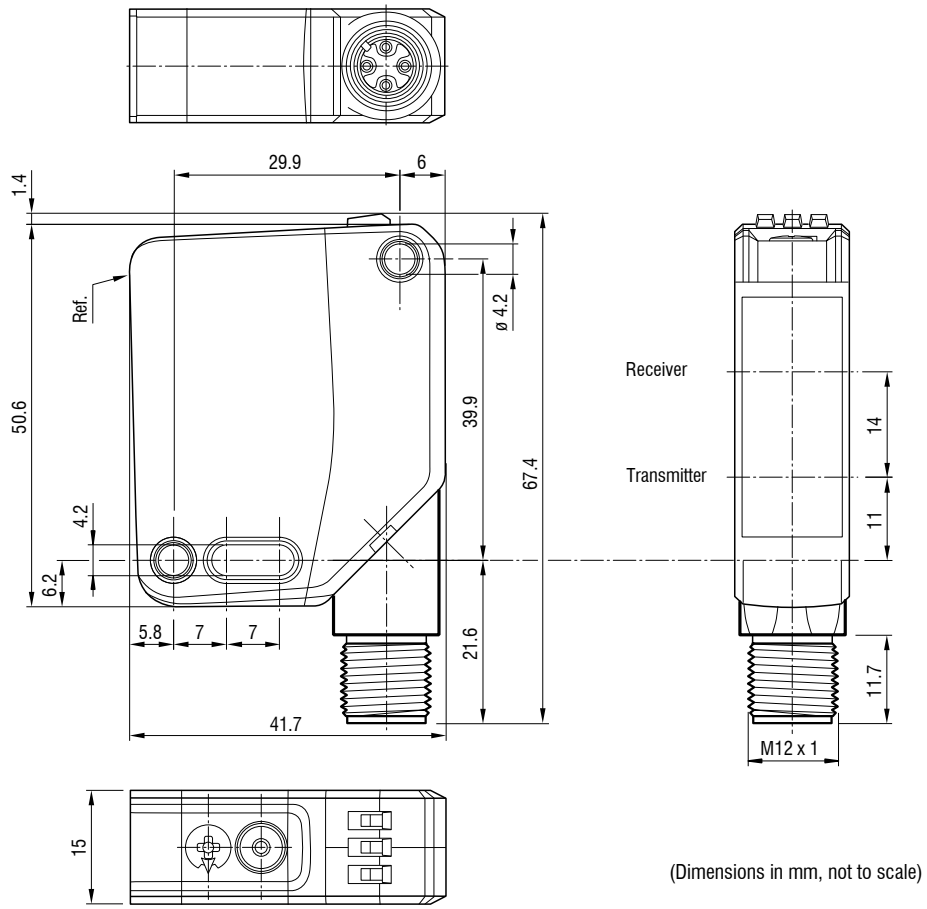
1	Mode rotary switch	
2	Teach-in button	
3	Switching output display Q2	YE
4	Switching output display Q1	YE
5	Operating display	GN

Q1B	Switching output 1 / switching point B
Q1A	Switching output 1 / switching point A
Q2A	Switching output 2 / switching point A
Q2B	Switching output 2 / switching point B
0	Key lock

Model		ILR1040-10-IO-I	ILR1040-10-IO-U	ILR1041-60-IO-I	ILR1041-60-IO-U
Measuring range	Start of measuring range	0.03 m	0.03 m	-	-
	End of measuring range	10 m	10 m	-	-
	Start of measuring range with reflector film ILR-RF250	-	-	0.2 m	0.2 m
	End of measuring range with reflector film ILR-RF250	-	-	60 m	60 m
Measuring rate [1] [2]		adjustable up to 333 Hz			
Max. travel speed		10 m/s			
Resolution		1 mm			
Linearity [3]		typ. ± 20 mm			
Repeatability [4]		<3 mm			
Temperature stability		≤ 0.25 mm / °K			
Light source		Semiconductor laser < 1 mW, 660 nm (red) 2mrad 4ns			
Laser class		Class 1 in accordance with DIN EN 60825-1:2014			
Typ. service life		85.000 h			
Permissible ambient light		50,000 lx @ 2.5 m standard white 90 %, 10,000 lx @ 2.5 m black 6 %			
Supply voltage		18 ... 30 VDC			
Power consumption		25 mA			
Digital interface		IO-Link 1.1 (via C/Q pin 4)			
Analog output		4 … 20 mA (12 Bit DA)	0 ... 10 V (12 bit DA)	4 … 20 mA (12 Bit DA)	0 ... 10 V (12 bit DA)
Switching output		Q1 (max 100 mA) push-pull output (configurable) reverse polarity protected, overvoltage-proof			
Connection		Supply & signal: M12 x1 , 4-pin			
Mounting		Through bores			
Temperature range	Storage	-40 … +75 °C			
	Operation	-30 … +60 °C			
Protection class (DIN EN 60529)		IP67 / IP69 / IP69K			
Material		PC (polycarbonate)			
Weight		37 g			
Control and indicator elements		3x LED for power, switching status and teach-in; 5-position rotary switch for selecting the operating modes; teach-in button			
Special features		Operating mode: single measurement, external triggering, distance tracking, continuous measurement			

[1] 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)
[2] Depends on the reflectivity of the target, ambient light interference and atmospheric conditions
[3] Statistical spread 2σ
[4] Measurement frequency of 20 Hz, moving average 10

Dimensions:



(Dimensions in mm, not to scale)

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