



More Precision

optoNCDT ILR // Laser distance sensors



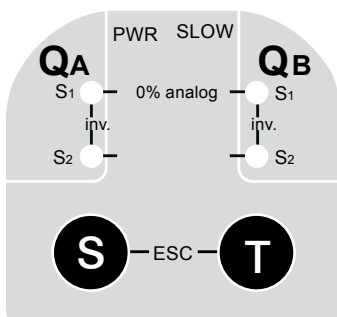
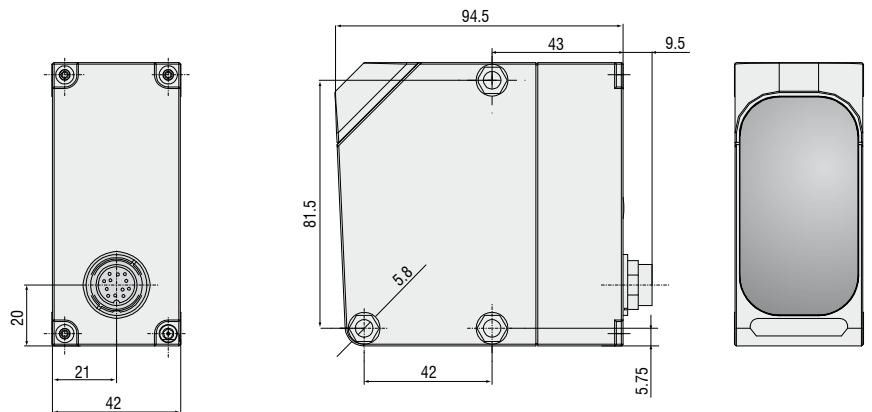


- Measuring ranges up to 250m with reflector
- Short response time
- Excellent price-performance ratio
- Fast sensor set configuration via touch keys

Distance sensors of the series optoNCDT 1021/1101/1151 are designed for non-contact measurements against objects up to 250m. These distance sensors need a special reflector on the measurement object with the sensor being matched to its reflective properties. The use of this reflector facilitates measurement distances of up to 250m with excellent accuracy.

Precise sensor alignment

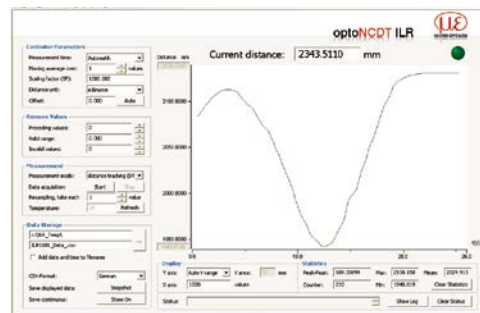
The aiming laser can be turned on for accurate alignment of the sensor with the measurement object. With large measurement distances this laser is adjusted using the optical alignment aid available as an accessory. For mounting the sensor a mounting bracket and a fine adjuster are available as accessories, which simplify the precise alignment of the sensor to the measurement object



ILR1021: Limit switch programming via touch keys



ILR1101/ILR1151: Limit switch programming via software




| Model | ILR1021-30 | ILR1101-50 | ILR1151-250 |
|-------------------------------------|--|---|-------------------------|
| Measuring range | 0.2 ... 30m | 0.5 ... 50m | 0.5 ... 250m |
| | reflector required for operation | | |
| Linearity | ±60mm | ±5mm ¹⁾ | ±3mm ¹⁾ |
| Resolution | 1 ... 5mm | 0.1 or 0.125mm | |
| Repeatability | ±5/10mm ²⁾ | ±4mm | ±2mm |
| Response time | 65/30ms ²⁾ | 12ms | |
| Laser class | measuring laser | IR 905nm, laser class 1 | IR 900nm, laser class 1 |
| | sighting laser | red 650nm, laser class 2 | |
| Operation temperature ³⁾ | -10° ... +50° C; -20° ... +50° C in continuous operation (humidity 5 - 95%, no condensation) | | |
| Storage temperature | -30° ... +75°C | | |
| Limit outputs | QA/QB (max. 100mA) | | |
| Switching points | free adjustable (teach in) | adjustable in 1-mm-steps | |
| Switching hysteresis | 30mm | min. 20mm (adjustable) | min. 10mm (adjustable) |
| Plausibility output | - | QP (max. 50mA) | |
| Service output | - | QS (max. 50mA) | |
| Serial interface | - | RS422 (2.9ms at 57.6kBaud) SSI - compatible (GRAY/BINÄR adjustable) (SSI Zyklus 80µs) | |
| Bus interface | - | Profibus or DeviceNet via respective gateway (accessory) | |
| Analogue output | 4 ... 20mA | - | - |
| Temperature stability | <1.2mm/°C | <0.5mm/°C | <±5mm absolut |
| 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 - 55Hz, amplitude 1.5mm, period 5min. at resonant frequency or 55Hz, stress time 30min. per axis | |
| Shock | EN 60947-5-2 | acceleration 30g, pulse duration 11ms, half sinusoid, 3 shocks/axis | |
| Weight | appr. 200g | appr. 230g | |
| Accessoires | page 14 - 15 | | |

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⁾ min. distance 2m

²⁾ slow/fast

³⁾ when crossing 0°C an additional heating may be required

| |
|---|
|  |
| 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 1021/1101/1151 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 ILR1021



Spot diameter ILR1101/1151



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Measurement and inspection systems



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