Sensor Fastening

The optoNCDT ILR2250-100-IO sensors are optical sensors that operate with millimeter accuracy.

Ensure careful handling during installation and operation.

Only attach the sensor on a flat surface using the through-holes provided. Any type of clamping is not permitted.

Mount the sensor on the sensor base plate using four M4 screws.

Term Definitions, Switching Output

For optoNCDT ILR2250-100-IO sensors, the start of the measuring range is placed in front of the sensor. The point of reference is the front housing edge on the sensor housing.

The switching outputs:
- can be used independently of one another to monitor limit values.
- are activated depending on the output level set (switching behavior) and the range check.
- are activated if the target is outside the range limits (upper/lower limit).
- A lower and an upper limit value (in mm) need to be entered in order for the range limits to be monitored.

The switching outputs are activated depending on the output level set (switching behavior) and the range check.

Example

Switching output 1:
Monitoring of upper and lower limit:
- Switching output 2: Measuring range error

The switching outputs function. You will need to set the values for the upper and lower limit to the necessary.

Risk of injury, damage to or destruction of the sensor.

Switching output 2 with measuring range error (PNP)

The point of reference is the front housing edge on the sensor housing.

- Teach = Distance is outside the measuring range, laser is still on.
- Max = Upper limit
- Min = Lower limit
- HV 1 = Hysteresis value
- HV 2 = Hysteresis value

Switching output 1 with range limits (NPN), switching output 2 with measuring range error (NPN)

If you want to monitor whether the target leaves the region of interest (min and max), you can do this using the "Teach" function. You will need to set the values for the upper and lower limit to the min and max values; the hysteresis value is not taken into account.

Sensor Installation

- Only attach the sensor on a flat surface using the through-holes provided. Any type of clamping is not permitted.
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SMR
- 1
- 2
- 3
- 4
- 5

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**Structure of the Components**

Mount the sensor and connect the sensor to the IO-Link master.

### Functional Description of the Sensor

The IO-Link master also supplies the supply voltage (24 V DC) for the sensor.

#### Initial Operation

The measurement laser starts when the supply voltage is applied if an active measurement (see LASER MEASURE ON) has previously been saved in the sensor.

The sensor is ready to use after approx. 2 s. Digital accuracy is immediate.

In this time, all desired parameters must be set and saved on the sensor. If the sensor is then switched off during an active measurement, it immediately resumes the saved measurement task once the power supply is connected again.

If the LASER LED is off, no power is being supplied.

#### Operation using IO-Link

The sensor exchanges process data and parameters via IO-Link.

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- The factory settings ensure that the process data telegram of the sensor receives the measured distance value. The distance value is output in tenths of a millimeter (27 bit signed integer). In addition, the logical state of the three switching outputs is transmitted by the last three bits.

#### Device Data

- Device data include:
  - parameters
  - identification data
  - diagnostic data

This information can be transmitted to or from the sensor in parallel with the process data. For this reason, the IO-Link master requires a sensor-specific device description file (IODD).

- The current device description file can be found at:


#### Power and Signal

- Power and operational readiness: When a measurement is started, the POWER LED is on when a measurement is started.

#### Display Elements, LED

**LED**

- Function: Display
- Display status: Off/Switching output inactive
- Switching output active

#### Unpacking, Included in Delivery

1. Sensor LI2250-100 IO
2. PC2250-0,3 IO-Link adapter cable
3. Copy of operating instructions
4. Assembly Instructions
5. German laser information sign
6. 12-pole M12 cable socket
7. 5-pole M12 cable socket
8. 32-bit output (from device to master)
9. Parameterization server function (data storage)
10. IO-Link interface properties

You can find more information about the sensor in the operating instructions. They can be found at: