Product family overview

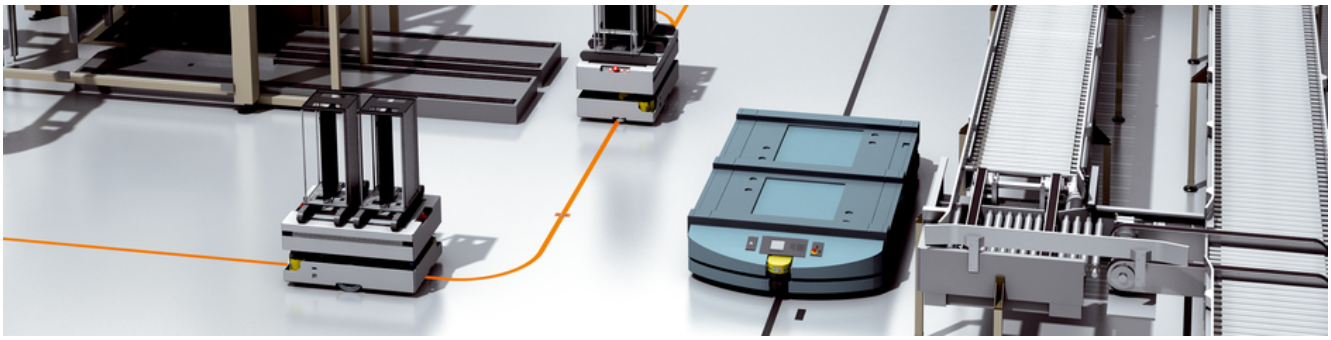


OLS

The sensor for optical line guidance

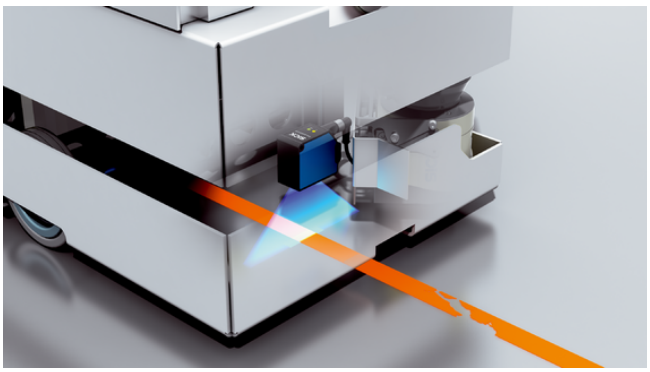
SICK
Sensor Intelligence.

Reliable lane detection

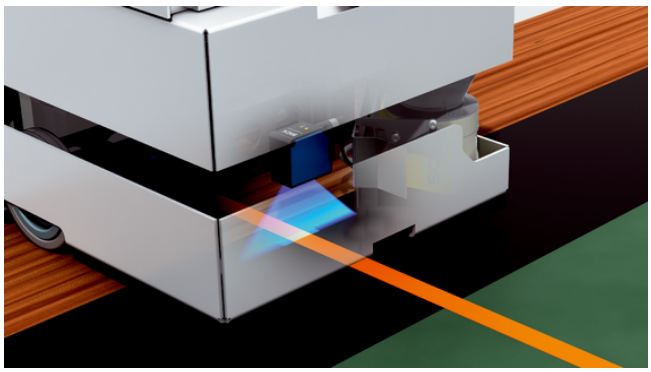


The rugged solution thanks to luminescence

Based on the luminescence principle, the OLS optical line guidance sensor offers increased ruggedness. The OLS can be used with one and the same lane regardless of the surface type and stably detects the lane even when soiled or slightly damaged. This reduces maintenance costs and downtimes of the vehicles.



The rugged line guidance sensor detects the lane even when slightly damaged or soiled



The OLS stably and reliably detects the lane regardless of the surface type

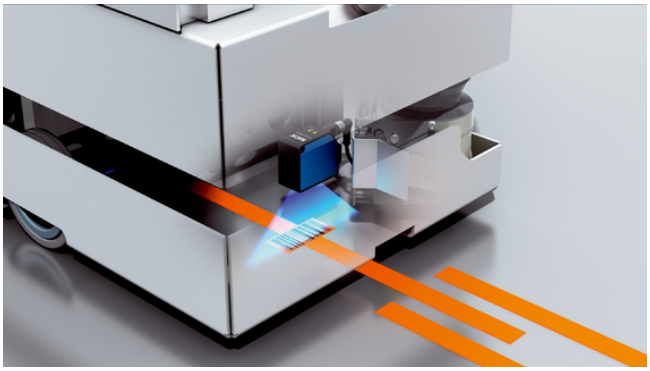
Reliable lane detection, able to withstand contamination and damage: The OLS offers more process reliability thanks to luminescence technology.

Fully flexible

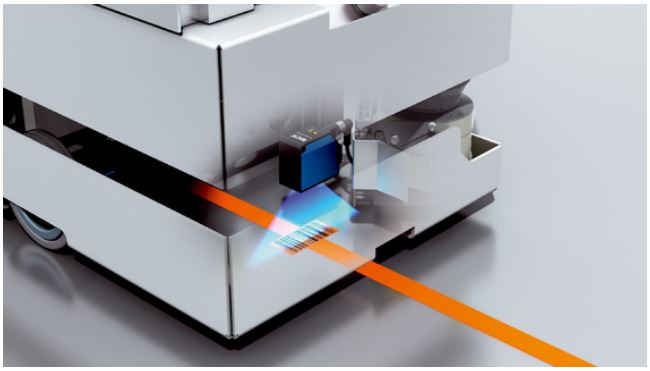


Flexible line guidance through large reading field and 1D code reading function

Thanks to its large reading field of 180 mm, the OLS is able to stably master curved trajectories even at high speeds and small radii. Even for lane branches or merges it can read up to three lanes. The 1D code reading function allows positioning based on landmarks or the transmission of route commands.



The OLS reads up to three lanes simultaneously and outputs the lane midpoint and lane width. This enables it to correctly detect the branching of a lane or merging of several lanes



The sensor reads 1D codes without difficulty while passing over them, and transmits the four-digit numeric value in the process data to the controller. This makes the use of additional RFID tags unnecessary

Fully flexible line guidance thanks to the large reading field; the simultaneous detection of up to three lanes and the 1D code reading function make further landmarks unnecessary and save time in routing.



Technical data overview

Communication interface	IO-Link CANopen Modbus (depending on type)
Dimensions (W x H x D)	31 mm x 62 mm x 52.5 mm
Sensing distance	100 mm
Type of light	LED [1] Blue LED [1] UV
Switching output	Push-pull: PNP/NPN
Connection type	Plug, M12, 5-pin

[1] Average service life: 100,000 h at T_U = +25 °C.

Product description

The OLS is a line guidance sensor based on luminescence technology. It detects conventional luminescent adhesive tape regardless of the background, contamination or surface defects and reliably outputs the deviation from the center of the lane. Lane shifts can be made flexibly with adhesive tape and are also possible in small curve radii of up to 0.5 m. In addition, the OLS offers the option of reading 1D codes and thus transmitting various pieces of route information and drive commands in the event of an overrun. A CANopen, RS-485 or IO-Link interface enable simple installation and commissioning. The OLS is therefore the most cost-effective solution for line guidance with a focus on ruggedness and flexibility.

At a glance

- Detection of luminescent adhesive tape
- Very high signal-to-noise ratio (~1:1,000)
- 180 mm reading field (up to 3 lanes can be read)
- Output of deviation from lane center point, lane width and read-out of barcodes
- Able to withstand ambient light, contamination and gloss
- Compensation for surface defects
- Measurement accuracy: ± 1 mm
- CANopen, RS-485 or IO-Link

Your benefits

- Rugged and accurate, insensitive to ambient light, contamination or surface defects
- Independent of base material or color
- Simple line shifts and route changes by attaching conventional adhesive tape
- Small curve radii of up to 0.5 m possible
- Large reading field enables flexible line shifts (branches, junctions)
- Reading bar codes makes it possible to transmit distance information or drive commands and simplifies vehicle control
- Cost efficient compared to camera solutions
- Low installation costs

Fields of application

- Detection of luminescent adhesive tape
- Very high signal-to-noise ratio (~1:1,000)
- 180 mm reading field (up to 3 lanes can be read)
- Output of deviation from lane center point and read-out of barcodes
- Able to withstand ambient light, contamination and gloss
- Compensation for surface defects
- Measurement accuracy: ± 1 mm
- CANopen, RS-485 or IO-Link

Ordering information

Other models and accessories ➜ www.sick.com/OLS

- **Housing design:** rectangular
- **Communication interface:** IO-Link, CANopen
- **Sensing distance:** ≤ 100 mm

Switching output	Light spot size	Connection type Detail	Type	Part no.
Push-pull: PNP/NPN	180 mm x 9 mm	Plug, M12, 5-pin	OLS20-BB1114142	1095594
			OLS20-BB1114149	1103483
			OLS20-BB1114342	1113053
			OLS20-UB1114140	1132098
			OLS20-UB1114340	1118557

- **Housing design:** rectangular
- **Communication interface:** IO-Link, Modbus
- **Sensing distance:** ≤ 100 mm

Switching output	Light spot size	Connection type Detail	Type	Part no.
Push-pull: PNP/NPN	180 mm x 9 mm	Plug, M12, 5-pin	OLS20-BB1118142	1100421
			OLS20-BB1118342	1113054
			OLS20-UB1118140	1132097
			OLS20-UB1118340	1108045

SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

WORLDWIDE PRESENCE:

Contacts and other locations –www.sick.com