Product family overview



Dx35

Larger than life performance – flexible measurement and detection up to 35 m

MID RANGE DISTANCE SENSORS

SICK
Sensor Intelligence.

Advantages



Dx35 – Larger-than-life performance

The Dx35 mid range distance sensors reflect SICK's long-standing expertise in the area of distance sensor technology. SICK has created what was previously thought to be impossible. The attractive housing design combined with exceptional performance make the Dx35 the number one choice for use in confined spaces with a scanning range of up to 35 m.



Adaptable
The Dx35's response time can be customized to keep track of even the fastest production processes.



Focused
With its HDDM technology, the Dx35 guarantees precise measurements across the entire color spectrum.



Resolute
Some objects can make a task unsolvable. But not for the Dx35, which can detect and measure even extremely dark and shiny objects as well as objects inclined at extreme angles.

Reliable measurement results even for difficult tasks and ambient conditions

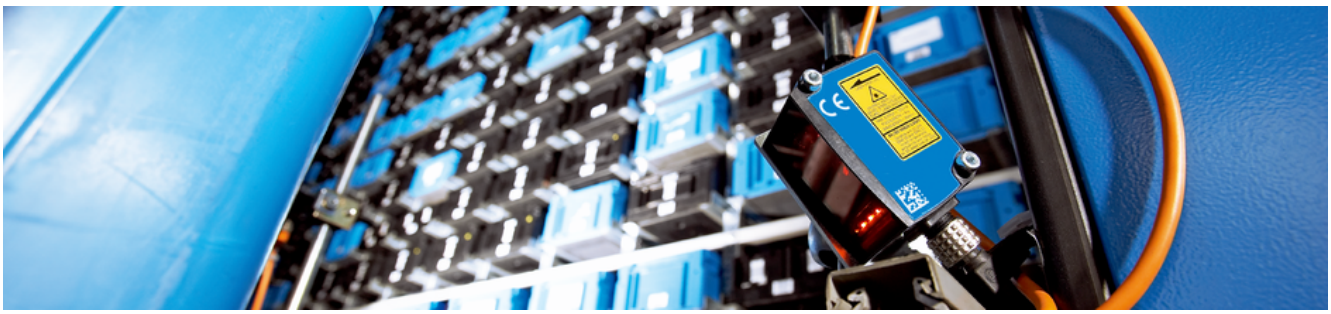
IO-Link

As co-founder of IO-Link, SICK offers one of the broadest IO-Link portfolios on the market. Smart Sensors with IO-Link generate and receive data and information which goes beyond conventional switching signals or measured process parameters. This allows them to create substantial increases in efficiency, more flexibility, and better planning security for predictive maintenance of machines and systems. Benefit from SICK's extensive experience with a wide range of sensing technologies, and now also in combination with the SIG100 and SIG200 Sensor Integration Gateways.

To find out more on the topic of "IO-Link", speak to your contact person at SICK or click here.

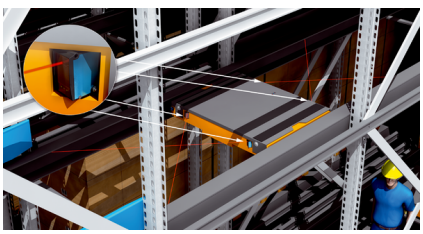


The IO link allows you to use a simple output signal switching device as a communication interface. This enables quick batch changes and simple commissioning, maintenance and diagnostics.

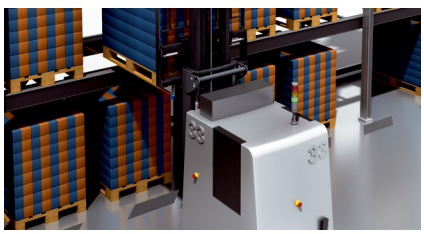


Variable distance measurement in storage and conveyor systems

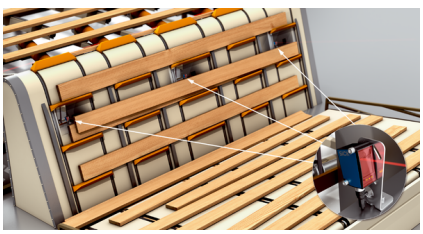
The Dx35 can be used in a wide variety of applications across all industries. In storage and conveyor systems, for example, it provides reliable empty bay and fill level detection.



Collision avoidance in shuttle warehouse systems



Empty bay detection with automated guided vehicles



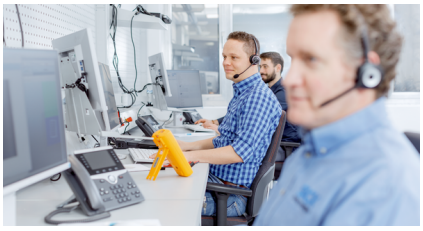
Detecting overlapping wooden boards

Reliable results throughout the entire production process – even under harsh ambient conditions thanks to the rugged housing

SICK LifeTime Services

SICK's services increase machine and plant productivity, enhance the safety of people all over the world, provide a solid foundation for a sustainable business operation, and protect investment goods. In addition to its usual consulting services, SICK provides direct on-site support during the conceptual design and commissioning phases as well as during operation.

The range of services not only covers aspects like maintenance and inspection, but also includes performance checks as well as upgrades and retrofits. Modular or customized service contracts extend the service life of plants and therefore increase their availability. If faults occur or limit values are exceeded, these are detected at all times by the corresponding sensors and systems.



Consulting and design
Application-specific advice on the product, its integration and the application itself.



commissioning and maintenance
Application-optimized and sustainable — thanks to professional commissioning and maintenance by a trained SICK service technician.



service contracts
Extended warranty, SICK Remote Service, 24-hour helpdesk, maintenance, availability guarantees and other modular components can be individually combined on request.



Technical data overview

Measuring range	50 mm ... 35,000 mm, 90 % remission, 18 % remission, 6 % remission, on “diamond grade” reflective tape (depending on type) (depending on type)
Repeatability	≥ 0.5 mm
Accuracy	Typ. ± 10 mm, typ. ± 15 mm (depending on type) (depending on type)
Response time	2.5 ms ... 96.5 ms 4.5 ms ... 192.5 ms (depending on type)
Output time	1 ms ... 64 ms, 1 ms/2 ms/4 ms/8 ms/32 ms, 2 ms/4 ms/8 ms/16 ms/64 ms [1) 2)] (depending on type)
IO-Link	✓ / IO-Link V1.1 / ✓ / IO-Link V1.1 / COM2 (38,4 kBaud) (depending on type) (depending on type)
Analog output	
Number	1
Type	Current output / voltage output
Digital output	1 ... 2 x push-pull: PNP/NPN (depending on type)
Ambient temperature, operation	–30 °C ... +55 °C, U_V ≤ 24 V
Light source	Laser, red Laser, infrared (depending on type) (depending on type)
Type of light	Visible red light / Infrared light (depending on type) (depending on type)
Laser class	2 (IEC 60825-1:2014) 1 (IEC 60825-1:2014) (depending on type)

[1)] Continuous change of distance in measuring range.
[2)] Depending on the set speed: Super Fast ... Super Slow.

Product description

The Dx35 family of distance sensors, based on HDDM™ technology, combine maximum reliability, measuring capabilities, flexibility and the perfect price-performance ratio in a very compact housing.
Depending on the application, sub-product families are available for distance measurement on natural objects (DT35 and DS35) or on reflective tape (DL35 and DR35).
The sub-product families also come with different interfaces. In addition to the IO-Link function, which all the devices have, the product family also offers sensors with analog and switching output (DT and DL) or the option of two switching outputs (DS and DR).
Its final distinguishing feature when selecting the right sensor for the application is the light sender: infrared or red light in laser class 1 or 2.

At a glance

- Highest reliability, ambient light immunity and best price/performance ratio thanks to HDDM technology
- Measuring range of 0.05 m to 12 m for natural objects or 0.2 m to 35 m for reflective tape
- Devices with analog and digital output, or just switching
- Infrared or red emitted light in laser class 1 or 2
- Repeatability: 0.5 mm to 5 mm
- Compact housing size
- IO-Link

Your benefits

- Precise and reliable measurement regardless of object color extends run time and process quality
- A small size and blind zone make flexible mounting possible when space is limited
- Optimum solution thanks to flexible settings for speed, range and repeatability
- Flexible interface use: 4 mA to 20 mA, 0 V to 10 V, PNP output, NPN output, or IO-Link – making machine integration simple
- Offering easy alignment, optimal performance or inconspicuous measurement, versatile light senders make it an ideal solution for all scenarios
- Low investment costs and high performance levels guarantee a quick return on investment
- IO-Link offers full process control, from commissioning to service
- A wide variety of control options ensures rapid commissioning and fast batch changes

Fields of application

- Positioning or anti-collision monitoring of shuttles, industrial trucks, gantry cranes and traversing carriages
- Reliable measurement and detection of extremely dark or glossy materials, e.g., in the automotive industry
- Loading, empty bay or fill level monitoring in logistics applications
- Measurement and detection of small objects at long distances, for example in manufacturing industries

Ordering information

Other models and accessories ➜ www.sick.com/Dx35

- **Measuring range:** 50 mm ... 12,000 mm, 90 % remission, 50 mm ... 5,300 mm, 18 % remission, 50 mm ... 3,100 mm, 6 % remission
- **Laser class:** 2
- **Minimum response time:** 2.5 ms
- **Light source:** Laser, red (Wavelength: 658 nm; max. output: 250 mW; pulse duration: 3 ns; duty cycle: 1/250.)
- **Communication interface:** IO-Link

Digital output	Type of analog output	Type	Part no.
1 ... 2 x push-pull: PNP/NPN	Current output / voltage output	DT35-B15251	1057652
2 x push-pull: PNP/NPN	–	DS35-B15221	1057655

- **Measuring range:** 50 mm ... 12,000 mm, 90 % remission, 50 mm ... 5,300 mm, 18 % remission, 50 mm ... 3,100 mm, 6 % remission
- **Laser class:** 1
- **Communication interface:** IO-Link

Minimum response time	Digital output	Type of analog output	Light source	Type	Part no.
2.5 ms	1 ... 2 x push-pull: PNP/NPN	Current output / voltage output	Laser, infrared [1)]	DT35-B15851	1057653
	2 x push-pull: PNP/NPN	–	Laser, infrared [1)]	DS35-B15821	1057656
4.5 ms	1 ... 2 x push-pull: PNP/NPN	Current output / voltage output	Laser, red [2)]	DT35-B15551	1057651
				DT35-B15551S04	1068098
	2 x push-pull: PNP/NPN	–	Laser, red [2)]	DS35-B15521	1057654

[1)] Wavelength: 827 nm; max. output: 130 mW; pulse duration: 3.5 ns; duty cycle: 1/250.
[2)] Wavelength: 658 nm; max. output: 250 mW; pulse duration: 3 ns; duty cycle: 1/500.

- **Measuring range:** 200 mm ... 35,000 mm, on “diamond grade” reflective tape
- **Laser class:** 1
- **Minimum response time:** 2.5 ms
- **Communication interface:** IO-Link

Digital output	Type of analog output	Light source	Type	Part no.
1 ... 2 x push-pull: PNP/NPN	Current output / voltage output	Laser, infrared [1)]	DL35-B15852	1057658
		Laser, red [2)]	DL35-B15552	1057657
2 x push-pull: PNP/NPN	–	Laser, infrared [1)]	DR35-B15822	1057660
		Laser, red [2)]	DR35-B15522	1057659

[1)] Wavelength: 827 nm; max. output: 130 mW; pulse duration: 3.5 ns; duty cycle: 1/250.
[2)] Wavelength: 658 nm; max. output: 120 mW; pulse duration: 3 ns; duty cycle: 1/250.

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