



## Dx500

Precision distance measurement for natural objects – up to 70 m on white, 30 m on black

**SICK**  
Sensor Intelligence.



## Technical data overview

<b>Resolution</b>	12 bit
<b>Repeatability</b>	1 mm
<b>Response time</b>	150 ms ... 6,000 ms (depending on type)
<b>Output time</b>	150 ms ... 6,000 ms (depending on type)
<b>Analog output</b>	4 mA ... 20 mA <sup>1)</sup> 0 mA ... 20 mA <sup>2)</sup> 0 mA ... 20 mA <sup>3)</sup>
<b>Digital output</b>	Type PNP / NPN (depending on type)
<b>Serial</b>	✓, RS-422
<b>CAN</b>	✓
<b>Enclosure rating</b>	IP65
<b>Ambient temperature, operation</b>	-40 °C ... +75 °C, operation with cooling case, operation with heating (depending on type)

<sup>1)</sup> Preset; 4 mA (0,2 m) / 20 mA (4 m).

<sup>2)</sup> Analog output<sub>PNP</sub> active when the object is located inside the valid switching range.

<sup>3)</sup> Can be configured to the device: 0 mA ... 20 mA / 4 mA ... 20 mA (max. load resistance =  $U_V - 2 \text{ V} / 0.0205 \text{ A}$ ).

## Product description

The DS500/DT500 families of long range distance sensors are ideal for high-precision distance measurement without a reflector. A state-of-the-art optical module as well as cutting edge, proprietary electronic signal processing offer the highest measurement precision at ranges of up to 70 m.

## At a glance

- Sensing range of up to 30 m on black, 70 m on white
- Very high measurement accuracy and repeatability
- Heated variants for use in cold storage applications
- Rugged housing (IP 65) made of high-strength aluminum alloy
- Serial interfaces as well as analog and digital outputs
- Display for plug and play commissioning

## Your benefits

- High measuring accuracy ensures optimum process reliability, particularly in demanding applications
- Red laser and alignment brackets (optional accessory) enable fast and cost-effective installation
- Rugged metal housing and heated device variants ensure a high level of reliability in harsh ambient conditions
- Integrated display with user-friendly menu navigation guarantees fast and cost-effective commissioning
- Serial interfaces, analog and digital outputs, and optional accessories, such as a weather protection housing and lens hoods, ensure flexible application integration

## Ordering information

Other models and accessories → [www.sick.com/Dx500](http://www.sick.com/Dx500)

- **Measuring range:** 0.2 m ... 30 m, 90% remission factor, 0.8 m ... 15 m, 6% remission factor
- **Repeatability:** 1 mm
- **Accuracy:** ± 3 mm

Digital output	Type of analog output	Heating	Power consumption	Type	Part no.
2 x NPN	–	–	Typ. 22 W	DS500-N211	1026522
2 x PNP	–	–	Typ. 22 W	DS500-P211	1026520
2 x NPN	–	–	Typ. 3 W	DS500-N111	1026521
2 x PNP	–	–	Typ. 3 W	DS500-P111	1026519
–	Current output	✓	Typ. 22 W	DT500-A211	1026516
		–	Typ. 3 W	DT500-A111	1026515
				DT500-A111S01	1028715
				DT500-A111S02	1042561

- **Measuring range:** 0.2 m ... 70 m, 90% remission factor, 0.2 m ... 30 m, 6% remission factor
- **Repeatability:** 1 mm
- **Accuracy:** ± 3 mm

Digital output	Type of analog output	Heating	Power consumption	Type	Part no.
2 x NPN	–	–	Typ. 22 W	DS500-N611	1040484
2 x PNP	–	–	Typ. 22 W	DS500-P611	1040480
2 x NPN	–	–	Typ. 3 W	DS500-N511	1040483
2 x PNP	–	–	Typ. 3 W	DS500-P511	1040479
–	Current output	✓	Typ. 22 W	DT500-A611	1040467
		–	Typ. 3 W	DT500-A511	1040466
				DT500-A511S03	1055352

- **Communication interface:** Serial
- **Measuring range:** 0.2 m ... 30 m, 90% remission factor, 0.8 m ... 15 m, 6% remission factor
- **Repeatability:** 1 mm
- **Accuracy:** ± 3 mm

Heating	Power consumption	Type	Part no.
✓	Typ. 22 W	DT500-A212	1026518
–	Typ. 3 W	DT500-A112	1026517

- **Measuring range:** 0.2 m ... 7 m, 90% remission factor, 0.8 m ... 7 m, 6% remission factor
- **Repeatability:** 1 mm
- **Accuracy:** ± 3 mm

Digital output	Type of analog output	Heating	Power consumption	Type	Part no.
2 x NPN	–	–	Typ. 22 W	DS500-N411	1040482
2 x PNP	–	–	Typ. 22 W	DS500-P411	1040478
2 x NPN	–	–	Typ. 3 W	DS500-N311	1040481
2 x PNP	–	–	Typ. 3 W	DS500-P311	1040477

Digital output	Type of analog output	Heating	Power consumption	Type	Part no.
-	Current output	✓	Typ. 22 W	DT500-A411	1040465
		-	Typ. 3 W	DT500-A311	1040475

- **Communication interface:** CAN
- **Measuring range:** 0.2 m ... 7 m, 90% remission factor, 0.8 m ... 7 m, 6% remission factor
- **Repeatability:** 1 mm
- **Accuracy:** ± 3 mm

Heating	Power consumption	Type	Part no.
✓	Typ. 22 W	DT500-A423	1040471
-	Typ. 3 W	DT500-A323	1040470

- **Communication interface:** CAN
- **Measuring range:** 0.2 m ... 70 m, 90% remission factor, 0.2 m ... 30 m, 6% remission factor
- **Repeatability:** 1 mm
- **Accuracy:** ± 3 mm

Heating	Power consumption	Type	Part no.
✓	Typ. 22 W	DT500-A623	1040473
-	Typ. 3 W	DT500-A523	1040472

- **Communication interface:** CAN
- **Measuring range:** 0.2 m ... 30 m, 90% remission factor, 0.8 m ... 15 m, 6% remission factor
- **Repeatability:** 1 mm
- **Accuracy:** ± 3 mm

Heating	Power consumption	Type	Part no.
✓	Typ. 22 W	DT500-A223	1040469
-	Typ. 3 W	DT500-A123	1040468

## 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](http://www.sick.com)