



# DS50-P1112

Dx50

MID RANGE DISTANCE SENSORS

**SICK**  
Sensor Intelligence.



### Ordering information

Type	Part no.
DS50-P1112	1047402

Other models and accessories → [www.sick.com/Dx50](http://www.sick.com/Dx50)



### Detailed technical data

#### Performance

<b>Measuring range</b>	200 mm ... 10,000 mm, 90 % remission 200 mm ... 6,000 mm, 18 % remission 200 mm ... 4,000 mm, 6 % remission
<b>Target</b>	Natural objects
<b>Resolution</b>	1 mm <sup>1)</sup>
<b>Repeatability</b>	≥ 2.5 mm <sup>2) 3) 4)</sup>
<b>Accuracy</b>	± 10 mm <sup>1) 5)</sup>
<b>Response time</b>	10 ms ... 50 ms, 10 ms / 50 ms <sup>4)</sup>
<b>Switching frequency</b>	50 Hz / 10 Hz <sup>4)</sup>
<b>Light source</b>	Laser, red
<b>Laser class</b>	2 (IEC 60825-1:2014, EN 60825-1:2014) <sup>6)</sup>
<b>Typ. light spot size (distance)</b>	15 mm x 15 mm (10 m)
<b>Additional function</b>	Set moving average: fast/slow, Set switching mode: Distance to object (DtO) / switching window (Wnd) / Object Between Sensor and Background (ObSB), teach-in, scaling and inversion of switching output, set hysteresis, Multifunctional input: laser off / external teach / deactivated, Unique measurement value, crosstalk safety, switch-off display, reset to factory default, lock user interface
<b>Average laser service life (at 25 °C)</b>	100,000 h

<sup>1)</sup> Related to distance value on the display.

<sup>2)</sup> Equivalent to 1  $\sigma$ .

<sup>3)</sup> 6 % ... 90 % remission.

<sup>4)</sup> Dependent on the averaging setting: fast/slow.

<sup>5)</sup> 90 % remission.

<sup>6)</sup> Wavelength: 658 nm; max. output: 180 mW; pulse duration: 5 ns; duty cycle: 1/200.

## Interfaces

<b>Switching output</b>	2 x PNP (100 mA) <sup>1) 2)</sup>
<b>Multifunctional input (MF)</b>	1 x <sup>3) 4)</sup>
<b>Hysteresis</b>	1 mm ... 9,999 mm

<sup>1)</sup> Output Q short-circuit protected.

<sup>2)</sup> PNP: HIGH =  $V_S - (< 2.5 V)$  / LOW = 0 V.

<sup>3)</sup> Response time  $\leq 60$  ms.

<sup>4)</sup> PNP: HIGH =  $V_S$  / LOW =  $\leq 2.5 V$ .

## Mechanics/electronics

<b>Supply voltage <math>V_S</math></b>	DC 10 V ... 30 V <sup>1)</sup>
<b>Ripple</b>	$\leq 5 V_{pp}$ <sup>2)</sup>
<b>Power consumption</b>	$\leq 1.85 W$ <sup>3)</sup>
<b>Initialization time</b>	$\leq 350$ ms
<b>Warm-up time</b>	$\leq 15$ min
<b>Housing material</b>	Housing zinc die cast (ZNAL4CU1) Acrylic glass (PMMA)
<b>Connection type</b>	Male connector, M12, 5-pin
<b>Indication</b>	LC display, 2 x LED
<b>Weight</b>	200 g
<b>Enclosure rating</b>	IP65
<b>Protection class</b>	III

<sup>1)</sup> Limit values, reverse-polarity protected, operation in short-circuit protected network: max. 8 A.

<sup>2)</sup> May not fall short of or exceed  $V_S$  tolerances.

<sup>3)</sup> Without load.

## Ambient data

<b>Ambient temperature operation</b>	-30 °C ... +65 °C -30 °C ... +80 °C -30 °C ... +140 °C
<b>Ambient storage temperature</b>	-40 °C ... +75 °C
<b>Max. rel. humidity (not condensing)</b>	$\leq 95$ %
<b>Typ. Ambient light immunity</b>	40,000 lx
<b>Vibration resistance</b>	EN 60068-2-6, EN 60068-2-64
<b>Shock resistance</b>	EN 60068-2-27

## Classifications

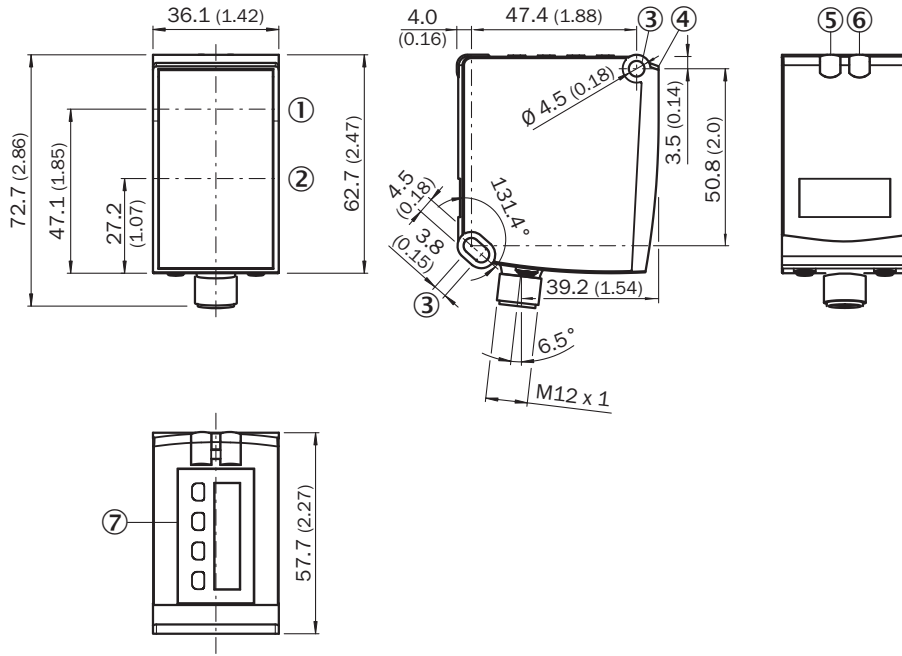
<b>ECl@ss 5.0</b>	27270801
<b>ECl@ss 5.1.4</b>	27270801
<b>ECl@ss 6.0</b>	27270801
<b>ECl@ss 6.2</b>	27270801
<b>ECl@ss 7.0</b>	27270801
<b>ECl@ss 8.0</b>	27270801
<b>ECl@ss 8.1</b>	27270801
<b>ECl@ss 9.0</b>	27270801

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## MID RANGE DISTANCE SENSORS

<b>ETIM 5.0</b>	EC001825
<b>ETIM 6.0</b>	EC001825
<b>UNSPSC 16.0901</b>	41111613

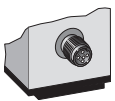
### Dimensional drawing (Dimensions in mm (inch))



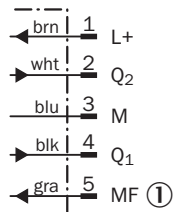
- ① Optical axis, sender
- ② Optical axis, receiver
- ③ Fixing hole
- ④ Reference surface = 0 mm
- ⑤ Status indicator switching output Q<sub>1</sub> (orange)
- ⑥ DT50/DT50 Hi/DL50: status indicator power on (green), DS50/DL50 Hi: status indicator switching output Q<sub>2</sub> (orange)
- ⑦ Operating keys and display

### Connection type

Male connector M12, 5-pin






### Connection diagram



① Multifunctional input (MF)

### Recommended accessories

Other models and accessories → [www.sick.com/Dx50](http://www.sick.com/Dx50)

	Brief description	Type	Part no.
Plug connectors and cables			
	Head A: female connector, M12, 5-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 2 m	YF2A15-020UB5XLEAX	2095617
	Head A: female connector, M12, 5-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 2 m	YF2A15-020VB5XLEAX	2096239
	Head A: female connector, M12, 5-pin, angled, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 2 m	YG2A15-020VB5XLEAX	2096215

## 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:

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