



# DT50-P1123

Dx50

MID RANGE DISTANCE SENSORS

**SICK**  
Sensor Intelligence.



## Ordering information

Type	Part no.
DT50-P1123	1047118

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



## Detailed technical data

### Performance

<b>Measuring range</b>	200 mm ... 10,000 mm, 90 % remission 200 mm ... 5,000 mm, 18 % remission 200 mm ... 2,500 mm, 6 % remission
<b>Resolution</b>	1 mm
<b>Repeatability</b>	5 mm / 2.5 mm <sup>1) 2) 3)</sup>
<b>Accuracy</b>	± 10 mm <sup>4)</sup>
<b>Response time</b>	20 ms / 30 ms <sup>3) 5)</sup>
<b>Output time</b>	≥ 4 ms <sup>6)</sup>
<b>Light source</b>	Laser, red
<b>Laser class</b>	1 (EN 60825-1) <sup>7)</sup>
<b>Typ. light spot size (distance)</b>	15 mm x 15 mm (10 m)
<b>Additional function</b>	Set moving average: fast/slow, switching mode: distance to object (DtO), teach-in, scaling and inversion of switching output, set hysteresis, teach-in, scaling and inversion of analog output, Multifunctional input: laser off / external teach / deactivated, switch-off display, reset to factory default, lock user interface
<b>Laser service life (MTTF at 25 °C)</b>	100,000 h

- <sup>1)</sup> Equivalent to 1  $\sigma$ .  
<sup>2)</sup> 6 % ... 90 % remission.  
<sup>3)</sup> Dependent on the set average: fast/slow.  
<sup>4)</sup> 90 % remission.  
<sup>5)</sup> Lateral entry of object into measuring range.  
<sup>6)</sup> Continuous change of distance in measuring range.  
<sup>7)</sup> Wavelength: 658 nm; max. output: 120 mW; pulse duration: 2.5 ns; pulse repetition rate: 1/400.

### Interfaces

<b>Analog output</b>	1 x 4 mA ... 20 mA ( $\leq 300 \Omega$ )
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- <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  $\leq 15$ ms.  
<sup>4)</sup> PNP: HIGH =  $V_S$  / LOW =  $\leq 2.5 V$ .

<b>Resolution analog output</b>	16 bit
<b>Switching output</b>	1 x PNP (100 mA) <sup>1) 2)</sup>
<b>Multifunctional input (MF)</b>	1 x <sup>3) 4)</sup>
<b>Hysteresis</b>	10 mm ... 1,000 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  $\leq 15\text{ms}$ .  
<sup>4)</sup> PNP: HIGH =  $V_S$  / LOW =  $\leq 2.5 V$ .

### Mechanics/electronics

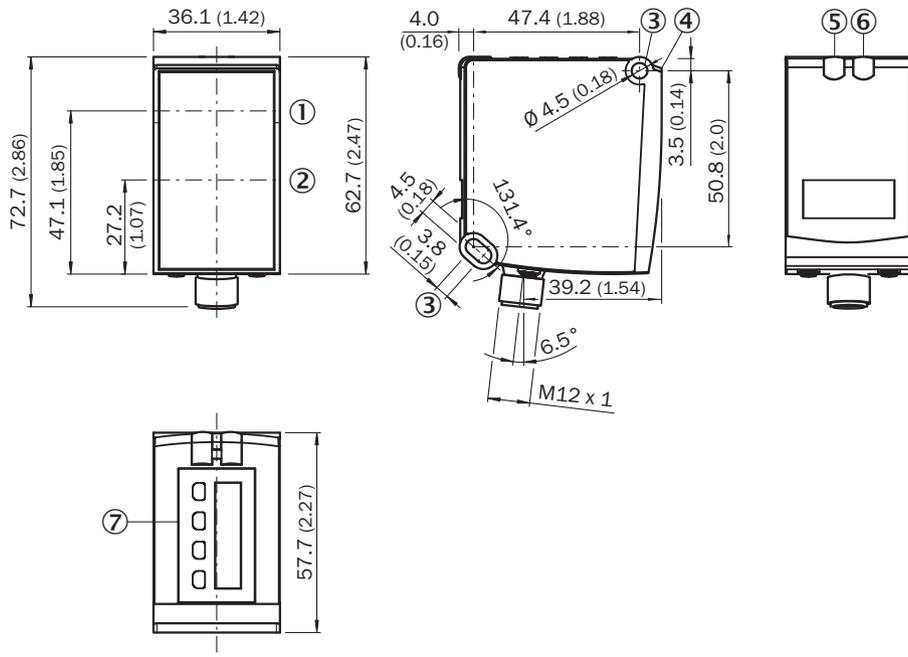
<b>Supply voltage <math>V_S</math></b>	DC 10 V ... 30 V <sup>1) 2)</sup>
<b>Ripple</b>	$\leq 5 V_{pp}$ <sup>3)</sup>
<b>Power consumption</b>	$\leq 2.1 W$ <sup>4)</sup>
<b>Initialization time</b>	$\leq 250\text{ ms}$
<b>Warm-up time</b>	$\leq 15\text{ min}$
<b>Housing material</b>	Die-cast zinc housing (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

- <sup>1)</sup> Limit values, reverse-polarity protected, operation in short-circuit protected network: max. 8 A.  
<sup>2)</sup> For DT50-xxxx4:  $V_S > 15 V$ .  
<sup>3)</sup> May not fall short of or exceed  $V_S$  tolerances.  
<sup>4)</sup> Without load.

### Ambient data

<b>Enclosure rating</b>	IP 65
<b>Protection class</b>	III
<b>Ambient temperature</b>	Operation: $-30\text{ }^\circ\text{C} \dots +65\text{ }^\circ\text{C}$ Storage: $-40\text{ }^\circ\text{C} \dots +75\text{ }^\circ\text{C}$
<b>Max. rel. humidity (not condensing)</b>	$\leq 95\%$
<b>Typ. Ambient light immunity</b>	40 klx
<b>Vibration resistance</b>	EN 60068-2-6 / EN 60068-2-64
<b>Shock resistance</b>	EN 60068-2-27

**Dimensional drawing** (dimensions in mm (inch))



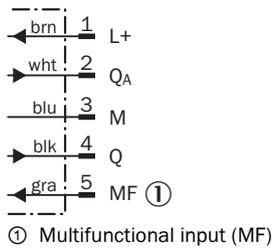
- ① Optical axis sender
- ② Optical axis receiver
- ③ Mounting hole
- ④ Reference surface = 0 mm
- ⑤ Status indicator switching output Q<sub>1</sub> (orange)
- ⑥ DT50/DT50 Hi/DL50: status indicator power on (green), DS50/DL50 Hi: status indicator switching output Q<sub>2</sub> (orange)
- ⑦ Operating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

**Connection type**

Connector M12, 5-pin



**Connection diagram**



## Recommended accessories

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

	Brief description	Type	Part no.
<b>Plug connectors and cables</b>			
	Head A: female connector, M12, 5-pin, straight Head B: Cable Cable: PVC, unshielded, 2 m	DOL-1205-G02M	6008899
	Head A: female connector, M12, 5-pin, straight Head B: Cable Cable: drag chain use, PUR, halogen-free, unshielded, 2 m	DOL-1205-G02MC	6025906
	Head A: female connector, M12, 5-pin, angled Head B: Cable Cable: PVC, unshielded, 2 m	DOL-1205-W02M	6008900
	Head A: female connector, M12, 5-pin, angled Head B: Cable Cable: drag chain use, PUR, halogen-free, unshielded, 2 m	DOL-1205-W02MC	6025909
	Head A: female connector, M12, 5-pin, angled, A-coded Head B: Cable Cable: HIPERFACE®, drag chain use, PUR, halogen-free, shielded, 5 m	DOL-1205-W05MAC	6041751

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