



DT50-2B215252

Dx50-2

MID RANGE DISTANCE SENSORS

SICK
Sensor Intelligence.



Ordering information

Type	Part no.
DT50-2B215252	1065661

Other models and accessories → www.sick.de/Dx50-2



Detailed technical data

Performance

Measuring range	200 mm ... 30,000 mm, 90 % remission ^{1) 2)} 200 mm ... 17,000 mm, 18 % remission 200 mm ... 10,000 mm, 6 % remission
Resolution	0.1 mm
Repeatability	0.5 mm ... 5 mm ^{3) 2) 4)}
Accuracy	± 7 mm ⁴⁾
Response time	0.83 ms / 3.33 ms / 8.33 ms / 25 ms / 75 ms ^{5) 6)}
Switching frequency	1,000 Hz / 250 Hz / 100 Hz / 33 Hz / 11 Hz ^{5) 6)}
Output time	0.33 ms / 1.33 ms / 3.33 ms / 10 ms / 30 ms ^{7) 5)}
Light source	Laser, red ⁸⁾
Laser class	2 (EN 60825-1)
Typ. light spot size (distance)	10 mm x 10 mm (at 10 m)
Additional function	Set speed: Super Fast ... Super Slow, teach-in, scaling and inversion of analog output, Output Q ₂ , selectable: 4 mA ... 20 mA / 0 V ... 10 V / switching output / Q ₁ not/ deactivated, Switching mode: Distance to Object (DtO) / switching window / object between sensor and background (ObSB), teach-in, scaling and inversion of switching output, IO-Link V1.1 (incl. data storage), Multifunctional input: laser off / external teach / deactivated, reset to factory default, Shape comparison: based on the distance measured over a period of time, Hold measurement value, switch-off or lock display, easy teach option
Laser service life (MTTF at 25 °C)	100,000 h

¹⁾ For speed setting Slow.

²⁾ See characteristic curves repeatability.

³⁾ Equivalent to 1 σ .

⁴⁾ 6 % ... 90 % remission.

⁵⁾ Dependent on the set speed: Super Fast ... Super Slow.

⁶⁾ Lateral entry of object into measuring range.

⁷⁾ Continuous change of distance in measuring range.

⁸⁾ Wavelength: 658 nm; max. output: 250 mW; pulse duration: 3 ns; pulse repetition rate: 1/250.

Interfaces

Analog output	1 x 4 mA ... 20 mA ($\leq 450 \Omega$) / 1 x 0 V ... 10 V ($\geq 50 \text{ k}\Omega$) / – ¹⁾
Resolution analog output	16 bit
Switching output	1 x / 2 x complementary / 2 x push-pull: PNP/NPN (100 mA), IO-Link ^{2) 3) 1)}
Multifunctional input (MF)	1 x ⁴⁾
Hysteresis	0 mm ... 29,950 mm
Data interface	IO-Link
IO-Link	✓
Function	Process data, parameterization, diagnosis, data storage
Data transmission rate	230.4 kbit/s
Protocol	V1.1

¹⁾ Output Q₂, selectable: 4 mA ... 20 mA / 0 V ... 10 V / switching output / Q₁ not/ deactivated.

²⁾ Output Q short-circuit protected.

³⁾ Voltage drop < 3 V.

⁴⁾ Response time $\leq 60 \text{ ms}$.

Mechanics/electronics

Supply voltage V_s	DC 10 V ... 30 V ^{1) 2)}
Ripple	$\leq 5 \text{ V}_{\text{pp}}$ ³⁾
Power consumption	$\leq 1.7 \text{ W}$ ^{4) 5)}
Initialization time	$\leq 250 \text{ ms}$
Warm-up time	$\leq 15 \text{ min}$
Housing material	Die-cast zinc Acrylic glass (PMMA)
Connection type	Male connector, M12, 5-pin
Indication	3 x LED, LC display
Weight	235 g

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

²⁾ When using IO-Link output V_s > 18 V. When using analog output V_s > 13 V.

³⁾ May not fall short of or exceed V_S tolerances.

⁴⁾ At $\geq 0^\circ\text{C}$.

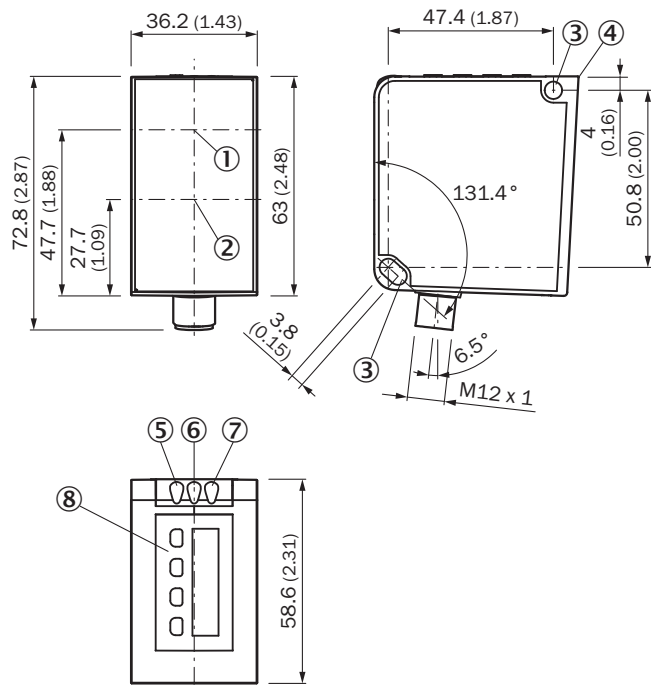
⁵⁾ Without load.

Ambient data

Enclosure rating	IP 65, IP 67
Protection class	III
Ambient temperature	Operation: $-40^\circ\text{C} \dots +65^\circ\text{C}$ ¹⁾ Storage: $-40^\circ\text{C} \dots +75^\circ\text{C}$
Typ. ambient light safety	40 klx
Vibration resistance	EN 60068-2-6 / EN 60068-2-64
Shock resistance	EN 60068-2-27

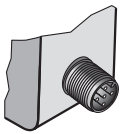
¹⁾ U_V $\leq 24 \text{ V}$.

Dimensional drawing (Dimensions in mm (inch))

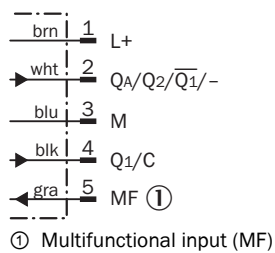


- ① Optical axis, sender
- ② Optical axis, receiver
- ③ Mounting hole, Ø 4.5 mm
- ④ Zero level
- ⑤ Status LED output Q_A / Q₂
- ⑥ Status LEDs output Q₁
- ⑦ Status indicator power on
- ⑧ Operating keys and display

Connection type



Connection diagram

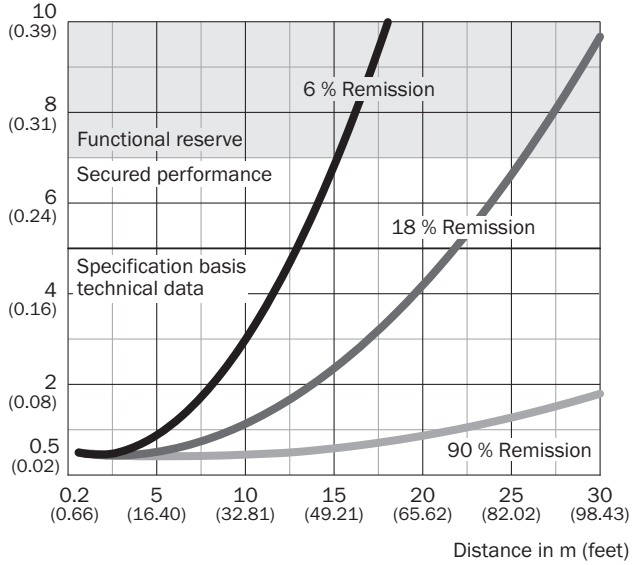


Repeatability

DT50-2 Pro

Super Slow

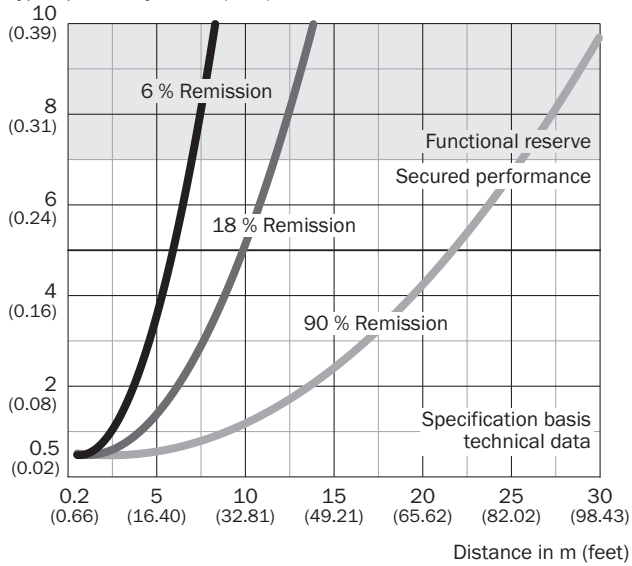
Typ. repeatability in mm (inch)



DT50-2 Pro

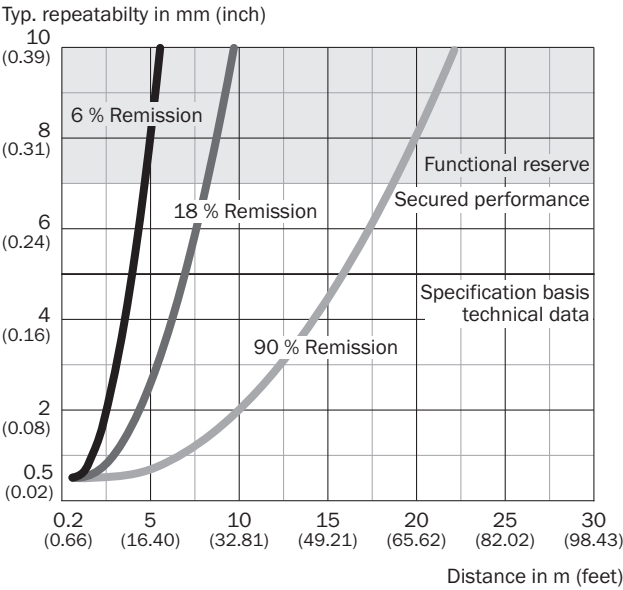
Fast

Typ. repeatability in mm (inch)



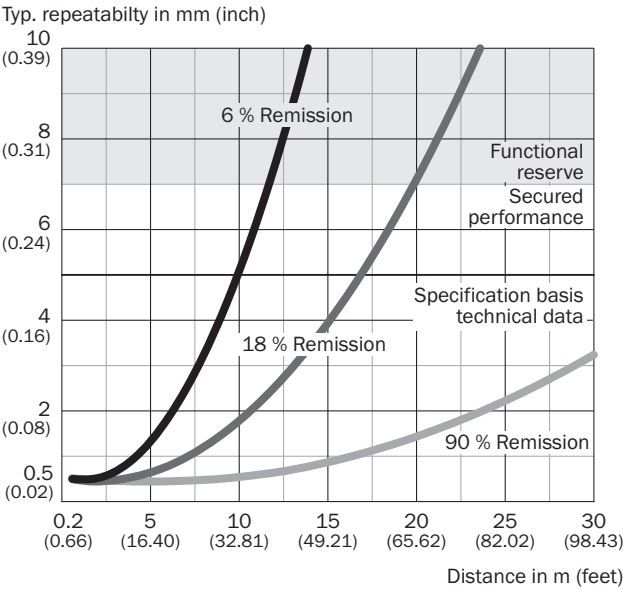
DT50-2 Pro

Super Fast



DT50-2 Pro

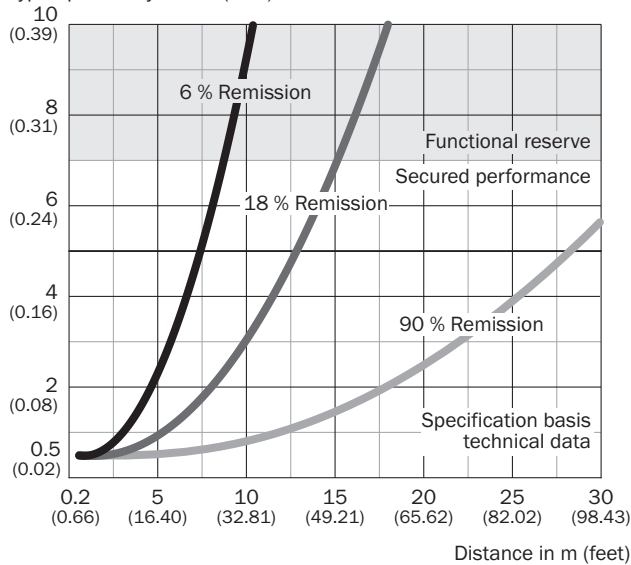
Slow



DT50-2 Pro

Medium

Typ. repeatability in mm (inch)



Recommended accessories

Other models and accessories → www.sick.de/Dx50-2

	Brief description	Type	Part no.
Mounting brackets and mounting plates			
	Mounting bracket, steel, zinc coated, steel, zinc coated, mounting hardware for the sensor included	BEF-WN-DX50	2048370
Terminal and alignment brackets			
	Alignment unit, steel, zinc coated, mounting hardware for the sensor included	BEF-AH-DX50	2048397
Modules and gateways			
	IO-Link V1.1 Class A port, USB2.0 port, optional external power supply 24V / 1A	SiLink2 Master	1061790
Plug connectors and cables			
	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, angled Head B: Cable Cable: PVC, unshielded, 2 m	DOL-1205-W02M	6008900
	Head A: female connector, M12, 5-pin, straight Head B: male connector, M12, 5-pin, straight Cable: drag chain use, PUR, halogen-free, unshielded, 2 m	DSL-1205-G02MC	6025931

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