

DS35-B15821

Dx35

MID RANGE DISTANCE SENSORS





Ordering information

Туре	Part no.
DS35-B15821	1057656

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



Detailed technical data

Mechanics/electronics

Supply voltage V _s	DC 12 V 30 V ^{1) 2)}
Ripple	≤ 5 V _{pp} ³⁾
Power consumption	\leq 1.7 W $^{4)}$
Initialization time	≤ 500 ms
Warm-up time	≤ 20 min
Housing material	Plastic (ABS/PC)
Window material	Plastic (PMMA)
Connection type	Male connector, M12, 5-pin
Indication	LEDs
Weight	65 g
Dimensions (W x H x D)	32 mm x 58.67 mm x 42.7 mm
Enclosure rating	IP65 IP67
Protection class	III

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

Safety-related parameters

MTTF	404
WILLED	101 years

 $^{^{2)}}$ When using IO-Link output V_s > 18 V.

 $^{^{\}rm 3)}$ May not fall short of or exceed $\rm V_S$ tolerances.

 $^{^{4)}}$ Without load, at +20 $^{\circ}\text{C}.$

Performance

Measurement range min max:	50 mm 12,000 mm, 90% remission factor ^{1) 2)} 50 mm 5,300 mm, 18 % remission 50 mm 3,100 mm, 6% remission factor	
Target	Natural objects	
Resolution	0.1 mm	
Repeatability	≥ 0.5 mm ^{2) 3)}	
Accuracy	Typ. ± 10 mm ⁴⁾	
Response time	2.5 ms 96.5 ms, 2.5 ms / 6.5 ms / 12.5 ms / 24.5 ms / 96.5 ms $^{5)}$ $^{6)}$	
Switching frequency	333 Hz / 100 Hz / 50 Hz / 25 Hz / 6 Hz $^{5)}$ $^{6)}$	
Output time	1 ms 32 ms, 1 ms/2 ms/4 ms/8 ms/32 ms ^{5) 7)}	
Light source	Laser, infrared ⁸⁾ Infrared light	
Laser class	1 (IEC 60825-1:2014, EN 60825-1:2014)	
Typ. light spot size (distance)	15 mm x 15 mm (at 2 m)	
Additional function	Set speed: Super Fast Super Slow, Switching mode: Distance to Object (DtO) / switching window / object between sensor and background (ObSB), teach-in of digital output and digital output invertible, Multifunctional input: laser off / external teach / deactivated, reset to factory default	
Average laser service life (at 25 °C)	100,000 h	

 $^{^{1)}}$ For speed setting Slow.

Interfaces

IO-Link	√ , IO-Link V1.1
Function	Process data, parameterization, diagnosis
Data transmission rate	38.4 kbit/s
Digital output	
Number	2 ^{1) 2)}
Туре	Push-pull: PNP/NPN
Function	Output Q_2 , adaptable: digital output/ Q_1 not/deactivated
Maximum output current I_A	≤ 100 mA
Multifunctional input (MF)	1 x ³⁾
Hysteresis	0 mm 11,950 mm ⁴⁾

¹⁾ Output Q short-circuit protected.

Ambient data

Ambient temperature, operation	-30 °C +55 °C, U _v ≤ 24 V
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²⁾ See repeatability characteristic lines.

 $^{^{3)}}$ Equivalent to 1 $\sigma.$

⁴⁾ 6% ... 90% remission factor.

 $^{^{5)}}$ Depending on the set speed: Super Fast \dots Super Slow.

⁶⁾ Lateral entry of the object into the measuring range.

⁷⁾ Continuous change of distance in measuring range.

 $^{^{8)}}$ Wavelength: 827 nm; max. output: 130 mW; pulse duration: 3.5 ns; duty cycle: 1/250.

²⁾ Voltage drop < 3 V.

 $^{^{3)}}$ Response time \leq 60 ms.

⁴⁾ Configurable via IO-Link.

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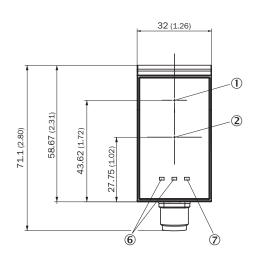
MID RANGE DISTANCE SENSORS

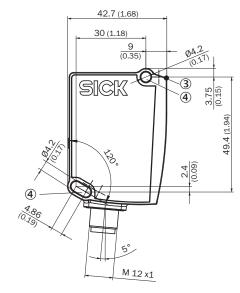
Ambient temperature, storage	-40 °C +75 °C
Max. rel. humidity (not condensing)	≤ 95 %
Vibration resistance	EN 60068-2-6, EN 60068-2-64
Shock resistance	EN 60068-2-27

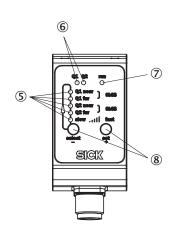
Classifications

ECLASS 5.0	27270801
ECLASS 5.1.4	27270801
ECLASS 6.0	27270801
ECLASS 6.2	27270801
ECLASS 7.0	27270801
ECLASS 8.0	27270801
ECLASS 8.1	27270801
ECLASS 9.0	27270801
ECLASS 10.0	27270801
ECLASS 11.0	27270801
ECLASS 12.0	27270916
ETIM 5.0	EC001825
ETIM 6.0	EC001825
ETIM 7.0	EC001825
ETIM 8.0	EC001825
UNSPSC 16.0901	41111613

Dimensional drawing (Dimensions in mm (inch))







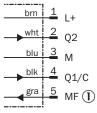
- ① Optical axis, sender
- ② Optical axis, receiver
- 3 Zero level
- 4 Mounting hole M4
- Status indicator output Qa/Q2
- Status LEDs output Q₁
- ① Operating indicator
- ® Control elements

Connection type

Male connector M12, 5-pin



Connection diagram



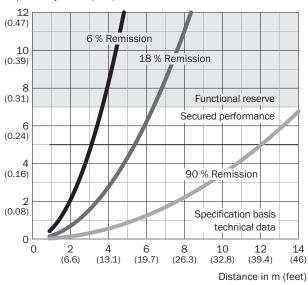
① Multifunctional input (MF)

Repeatability

Characteristic curve 1) Super Slow

Super Slow

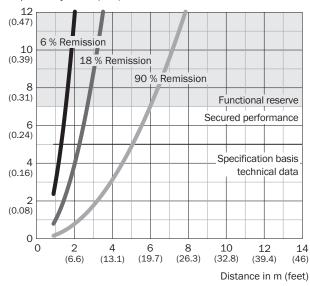
Repeatabilty in mm (inch)



Characteristic curve 5) Super Fast

Super Fast

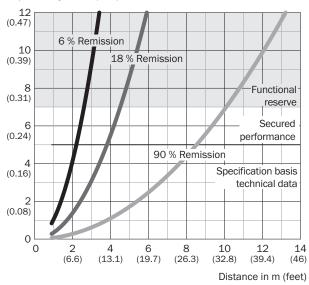
Repeatability in mm (inch)



Characteristic curve 2) Slow

Slow

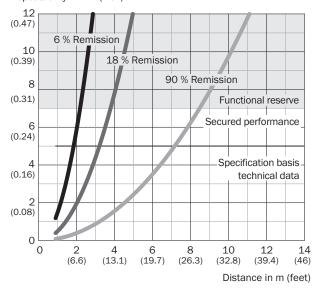
Repeatability in mm (inch)



Characteristic curve 3) Medium

Medium

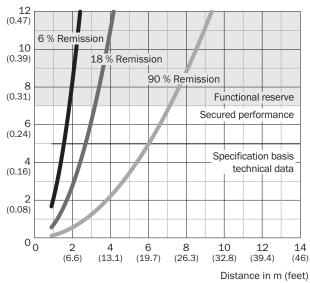
Repeatability in mm (inch)



Characteristic curve 4) Fast

Fast

Repeatability in mm (inch)



Recommended accessories

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

	Brief description	Туре	Part no.	
Universal bar	Universal bar clamp systems			
	Plate N02 for universal clamp bracket, Zinc plated steel (sheet), Zinc die cast (clamping bracket), Universal clamp (5322626), mounting hardware	BEF-KHS-N02	2051608	
Mounting bra	Mounting brackets and plates			
	Mounting bracket: horizontal sending axis for ceiling or floor installation or vertical sending axis for wall installation, steel, zinc coated, incl. mounting material, steel, zinc coated, mounting hardware for the sensor included	BEF-WN-DX35	2069592	
Plug connect	ors and cables			
	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	
1000	Head A: female connector, M12, 5-pin, straight, A-coded Head B: male connector, M12, 5-pin, straight, A-coded Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 2 m	YF2A15- 020UB5M2A15	2096009	
Terminal and	Terminal and alignment brackets			
	Alignment unit, steel, zinc coated, mounting hardware for the sensor included	BEF-AH-DX50	2048397	

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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.

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For us, that is "Sensor Intelligence."

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