Product data sheet

DT35S-B15251

Dx35

MID RANGE DISTANCE SENSORS

SICK
Sensor Intelligence.

Ordering information

Type	Part no.
DT35S-B15251	1122104

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

Detailed technical data

Features

Safety-related measuring range	50 mm ... 8,500 mm, 90% remission factor [1] 50 mm ... 4,500 mm, 20% remission 50 mm ... 3,000 mm, 10% remission 50 mm ... 2,000 mm, 6% remission factor
Target	Natural objects
Resolution	1 mm
Systematic error	< 25 mm [2]
Statistical error	< 25 mm [2] [3]
Response time	15 ms ... 50 ms [4] [5]
Light source	Laser, red [6] visible red light
Type of light	Visible red light
Laser class	2 (IEC 60825-1:2014, EN 60825-1:2014)
Typ. light spot size (distance)	15 mm x 15 mm (at 2 m)
Additional function	Adjustable speed: slow and medium Teach-in of analog output and invertible analog output Configureble Q_2 output: current output / digital output Switching mode: Distance to Object (DtO) / switching window / object between sensor and background (ObSB) Teach-in of digital output

[1] With the Slow speed setting. No objects will be detected from the measurement origin to a distance of 50 mm.
[2] 6% ... 90% remission factor.
[3] Corresponds to 4.4 σ.
[4] Depending on the configured speed and interface.
[5] Lateral entry of the object into the measuring range.
[6] Wavelength: 658 nm; max. output: 280 mW; pulse duration: 4 ns; duty cycle: 1/250.
[7] 10 years at 50 °C ambient temperature.

	Multifunctional input: laser off / deactivated
Safety-related parameters	
Category	B (EN ISO 13849-1:2015)
Performance level	PL b (EN ISO 13849-1:2015)
Performance class SRS/SRSS	B (IEC TS 62998-1:2019)
Max. cumulative downtime per year	< 5 min (IEC TS 62998-1)
Conformities	EN ISO 13849-1:2015, IEC TS 62998-1:2019, EN ISO 13482:2014, ANSI/ITSDF B56.5:2012
T_M (mission time)	20 years (EN ISO 13849-1:2015) [7]

[1] With the Slow speed setting. No objects will be detected from the measurement origin to a distance of 50 mm.
[2] 6% ... 90% remission factor.
[3] Corresponds to 4.4 d.
[4] Depending on the configured speed and interface.
[5] Lateral entry of the object into the measuring range.
[6] Wavelength: 658 nm; max. output: 250 mW; pulse duration: 4 ns; duty cycle: 1/250.
[7] 10 years at 50 °C ambient temperature.

Interfaces

IO-Link	✓, V1.1
Function	Process data
Data transmission rate	38.4 kbit/s (COM2)
Digital output	
Number	1 ... 2 [1] [2]
Type	Push-pull: PNP/NPN
Function	Configureble Q2 output: analog output / digital output
Maximum output current I_A	≤ 100 mA
Analog output	
Number	1
Type	Current output
Current	4 mA ... 20 mA, ≤ 450 Ω
Resolution	12 bit
Multifunctional input (MF)	1 x [3]
Hysteresis	10 mm 25 mm 50 mm
Interface for parametrization	SOPAS ET [4]

[1] Output Q short-circuit protected.
[2] Voltage drop < 3 V.
[3] Response time ≤ 60 ms.
[4] Additional SiLink2 Master accessory required.

Electronics

Supply voltage U_B	DC 19.2 V ... 28.4 V [1]
Power consumption	≤ 1.7 W [2]

[1] Limit values, reverse-polarity protected, operation in short-circuit protected network: max. 8 A.
[2] Without load, at +20 °C.
[3] May not fall short of or exceed U_B tolerances.

Ripple	≤ 5 V_{pp} [3]
Initialization time	≤ 500 ms
Warm-up time	≤ 20 min
Indication	LEDs
Enclosure rating	IP67
Protection class	III
Electrical safety	IEC 61010-1 (ed. 3)

[1] Limit values, reverse-polarity protected, operation in short-circuit protected network: max. 8 A.
[2] Without load, at +20 °C.
[3] May not fall short of or exceed V_S tolerances.

Mechanics

Dimensions (W x H x D)	32 mm x 58.67 mm x 42.7 mm
Housing material	Plastic (ABS/PC)
Window material	Plastic (PMMA)
Weight	65 g
Connection type	Male connector, M12, 5-pin

Ambient data

Ambient temperature, operation	–25 °C ... +50 °C, U_V ≤ 24 V
Ambient temperature, storage	–40 °C ... +75 °C
Max. rel. humidity (not condensing)	≤ 95 %
Temperature drift	0.5 mm/K
Typ. Ambient light immunity	Direct exposure: 3,000 lx Indirect exposure: 40,000 lx
Vibration resistance	EN 60068-2-6, EN 60068-2-64
Shock resistance	EN 60068-2-27
Electromagnetic compatibility (EMC)	EN 61000-6-2, EN 61000-6-3, EN 61000-6-4 [1]

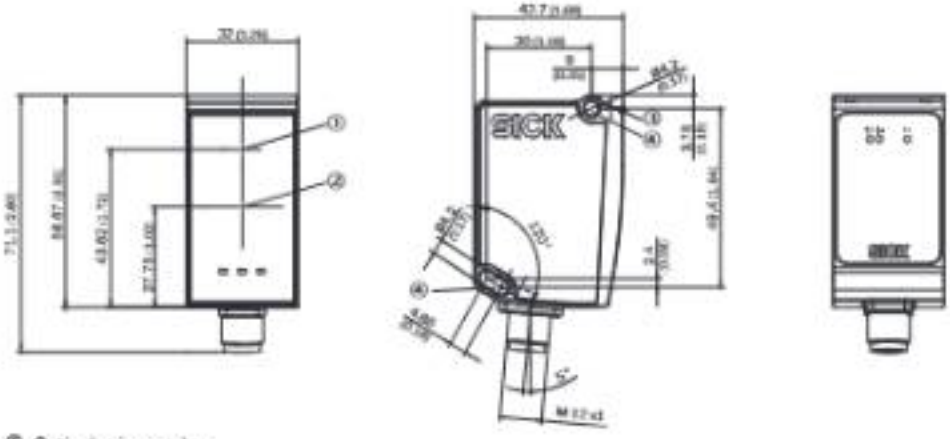
[1] This is a Class A device. This device can cause radio interference in living quarters.

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	27270918
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 Reference surface = 0 mm
④ Mounting hole M4

Connection type

Male connector M12, 5-pin

Recommended accessories

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

	Brief description	Type	Part no.
Connection modules			
	• **Accessory family:** Connection modules • **Description:** IO-Link V1.1 Class A port, USB2.0 port, optional external power supply 24V / 1A	IOLA2US-01101 (SiLink2 Master)	1061790

	Brief description	Type	Part no.
Universal bar clamp systems			
	• **Description:** Plate N02 for universal clamp bracket • **Material:** Steel, zinc diecast • **Details:** Zinc plated steel (sheet), Zinc die cast (clamping bracket) • **Items supplied:** Universal clamp (5322626), mounting hardware • **Usable for:** W4S-3 Glass, W10, W4SLG-3, W4S-3 Inox, W4S-3 Inox Glass, W9, W11-2, W12-3, W12-2 Laser, W12G, W12 Teflon, W18, W250, W250-2, PowerProx, W11G-2, TranspaTect, WTT12, UC12, P250, G8 Inox, W4S, W4SL-3V, W4SLG-3V, W4SL-3H	BEF-KHS-N02	2051608
Mounting brackets and plates			
	• **Description:** Mounting bracket: horizontal sending axis for ceiling or floor installation or vertical sending axis for wall installation, steel, zinc coated, incl. mounting material • **Material:** Steel • **Details:** Steel, zinc coated • **Items supplied:** Mounting hardware for the sensor included	BEF-WN-DX35	2069592
Terminal and alignment brackets			
	• **Description:** Alignment unit • **Material:** Steel • **Details:** Steel, zinc coated • **Items supplied:** Mounting hardware for the sensor included	BEF-AH-DX50	2048297
	• **Connection type head A:** Female connector, M12, 5-pin, straight, A-coded • **Connection type head B:** Male connector, M12, 5-pin, straight, A-coded • **Signal type:** Sensor/actuator cable • **Cable:** 2 m, 5-wire, PUR, halogen-free • **Description:** Sensor/actuator cable, unshielded • **Application:** Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YF2A15-020UB5M2A15	2096009
	• **Connection type head A:** Female connector, M12, 5-pin, angled, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 2 m, 5-wire, PVC • **Description:** Sensor/actuator cable, unshielded • **Application:** Zones with chemicals, Uncontaminated zones	YG2A15-020VB5XLEAX	2096215
	• **Connection type head A:** Female connector, M12, 5-pin, straight, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 2 m, 5-wire, PVC • **Description:** Sensor/actuator cable, unshielded • **Application:** Zones with chemicals, Uncontaminated zones	YF2A15-020VB5XLEAX	2096239

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."

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