



DT35S-B15551

DT35-S

SAFETY DISTANCE SENSORS

SICK
Sensor Intelligence.



Ordering information

Type	part no.
DT35S-B15551	1122103

Other models and accessories → www.sick.com/DT35-S



Detailed technical data

Features

Safety-related measuring range		50 mm ... 8,500 mm, 90% remission factor ¹⁾ 50 mm ... 4,500 mm, 20% reflection factor 50 mm ... 3,000 mm, 10% reflection factor 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)}
Emitted beam		
	Light source	Laser, red ⁶⁾
	Type of light	Visible red light
	Typ. light spot size (distance)	15 mm x 15 mm (at 2 m)
Key laser figures		
	Normative reference	IEC 60825-1:2014, EN 60825-1:2014
	Laser class	1
Additional function		Adjustable speed: slow and medium Teach-in of analog output and invertible analog output Configurable Q ₂ output: current output / digital output Switching mode: Distance to Object (DtO) / switching window / object between sensor and background (ObSB)

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: 250 mW; pulse duration: 4 ns; duty cycle: 1/500.

⁷⁾ 10 years at 50 °C ambient temperature.

	Teach-in of digital output Multifunctional input: laser off / deactivated
Safety-related parameters	
Category	B (EN ISO 13849-1)
Performance level	PL b (EN ISO 13849-1)
Performance class SRS/SRSS	B (IEC TS 62998-1)
PFH (mean probability of a dangerous failure per hour)	$1,4 \times 10^{-6}$
Max. cumulative downtime per year	< 5 min (IEC TS 62998-1)
Conformities	EN ISO 13849-1, IEC TS 62998-1, EN ISO 13482, ANSI/ITSDF B56.5
T _M (mission time)	20 years (EN ISO 13849-1) 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 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: 250 mW; pulse duration: 4 ns; duty cycle: 1/500.
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	Configurable 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⁾ Voltage level MF input active: High ≥ 14 V (applies only in the specified supply voltage range) Voltage level MF input inactive: Low ≤ 5 V (applies only in the specified supply voltage range)
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 ... 26.4 V ¹⁾
Power consumption	$\leq 1.7 \text{ W}$ ²⁾
Ripple	$\leq 5 \text{ V}_{pp}$ ³⁾
Initialization time	$\leq 500 \text{ ms}$
Warm-up time	$\leq 20 \text{ min}$
Display	LEDs
Enclosure rating	IP67
Protection class	III
Electrical safety	IEC 61010-1 (ed. 3)
Connection type	Male connector, M12, 5-pin

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

Ambient data

Ambient temperature, operation	-25 °C ... +50 °C, $U_v \leq 24 \text{ V}$
Ambient temperature, storage	-40 °C ... +75 °C
Max. rel. humidity (not condensing)	$\leq 95 \%$
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⁾

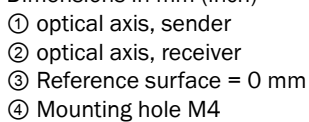
¹⁾ This is a Class A device. This device can cause radio interference in living quarters.

Classifications

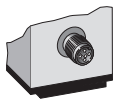
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ECLASS 5.1.4	27270801
ECLASS 6.0	27270801
ECLASS 6.2	27270801
ECLASS 7.0	27270801
ECLASS 8.0	27270801
ECLASS 8.1	27270801
ECLASS 9.0	27270801
ECLASS 10.0	27270801

Certificates

Dimensional drawing





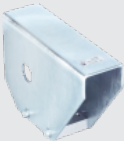









Connection Plug, M12, 5-pin



Recommended accessories

Other models and accessories → www.sick.com/DT35-S

	Brief description	Type	part no.
network devices			
		IOLA2US-01101 (SiLink2 Master)	1061790
Mounting systems			
	<ul style="list-style-type: none"> Description: Alignment unit Material: Steel Details: Steel, zinc coated Items supplied: Mounting hardware for the sensor included 	BEF-AH-DX50	2048397
	<ul style="list-style-type: none"> 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, W16, W250, W250-2, PowerProx, W11G-2, TranspaTect, WTT12, UC12, P250, G6 Inox, W4S, W4SL-3V, W4SLG-3V, W4SL-3H 	BEF-KHS-N02	2051608
	<ul style="list-style-type: none"> 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
device protection and care			
	<ul style="list-style-type: none"> Description: Weather Cover for Dx35/Dx50/Dx50-2/Dx80 	OBW-KHS-M02	2050205

	Brief description	Type	part no.
connectors and cables			
	<ul style="list-style-type: none"> 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
	<ul style="list-style-type: none"> 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
	<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 5-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 3 m, 5-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones 	YF2A15-030VB5XLEAX	2145572
	<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 5-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 0.6 m, 5-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones 	YF2A15-C60VB5XLEAX	2145570
	<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 5-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 1 m, 5-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones 	YG2A15-010VB5XLEAX	2145574
	<ul style="list-style-type: none"> 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
	<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 5-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 3 m, 5-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones 	YG2A15-030VB5XLEAX	2145575
	<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 5-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 0.6 m, 5-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones 	YG2A15-C60VB5XLEAX	2145573

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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