



DL35-B15552

Dx35

TIME-OF-FLIGHT SENSORS

SICK
Sensor Intelligence.



Ordering information

Type	part no.
DL35-B15552	1057657

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



Detailed technical data

Features

Measuring range	200 mm ... 35,000 mm, on “diamond grade” reflective tape ¹⁾
Target	Reflector
Resolution	100 µm
Repeatability	≥ 0.5 mm ^{1) 2)}
Measurement accuracy	Typ. ± 15 mm ³⁾
Response time	2.5 ms ... 96.5 ms, 2.5 ms / 6.5 ms / 12.5 ms / 24.5 ms / 96.5 ms ^{4) 5)}
Switching frequency	333 Hz / 100 Hz / 50 Hz / 25 Hz / 6 Hz ^{4) 5)}
Output time	1 ms ... 32 ms, 1 ms/2 ms/4 ms/8 ms/32 ms ^{4) 6)}
Emitted beam	
Light source	Laser, red ⁷⁾
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 ⁸⁾
Average laser service life (at 25 °C)	100,000 h
Additional function	Set speed: Super Fast ... Super Slow

¹⁾ See repeatability characteristic lines.

²⁾ Equivalent to 1 σ.

³⁾ On “diamond grade” reflective tape.

⁴⁾ Depending on the set speed: Super Fast ... Super Slow.

⁵⁾ Lateral entry of the object into the measuring range.

⁶⁾ Continuous change of distance in measuring range.

⁷⁾ Wavelength: 658 nm; max. output: 120 mW; pulse duration: 4 ns; duty cycle: 1/250.

⁸⁾ Do not intentionally look into the laser beam. Never point the laser beam at people's eyes.

		Teach-in of analog output and invertible analog output Output Q ₂ adaptable: Current output / Voltage output / Digital output Switching mode: Distance to reflective tape (DtR) / switching window (Wnd) / 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
Safety-related parameters	MTTF _D	101 years
	DC _{avg}	0%

- 1) See repeatability characteristic lines.
- 2) Equivalent to 1 σ .
- 3) On "diamond grade" reflective tape.
- 4) Depending on the set speed: Super Fast ... Super Slow.
- 5) Lateral entry of the object into the measuring range.
- 6) Continuous change of distance in measuring range.
- 7) Wavelength: 658 nm; max. output: 120 mW; pulse duration: 4 ns; duty cycle: 1/250.
- 8) Do not intentionally look into the laser beam. Never point the laser beam at people's eyes.

Interfaces

IO-Link		✓ , IO-Link V1.1
	Function	Process data, parameterization, diagnosis
	Data transmission rate	38.4 kbit/s
Digital output		
	Number	1 ... 2 ^{1) 2)}
	Type	Push-pull: PNP/NPN
	Function	Output Q ₂ adaptable: Current output / Voltage output / Digital output / Q ₁ not / deactivated
	Maximum output current I _A	≤ 100 mA
Analog output		
	Number	1
	Type	Current output / voltage output
	Function	Output Q ₂ adaptable: Current output / Voltage output / Digital output
	Current	4 mA ... 20 mA, ≤ 450 Ω
	Voltage	0 V ... 10 V, ≥ 50,000 Ω
	Resolution	12 bit
Multifunctional input (MF)		1 x ³⁾
Hysteresis		0 mm ... 34,950 mm ⁴⁾

- 1) Output Q short-circuit protected.
- 2) Voltage drop < 3 V.
- 3) Response time ≤ 60 ms.
- 4) Configurable via IO-Link.

Electronics

Supply voltage U_B	DC 12 V ... 30 V ^{1) 2)}
-------------------------------------	-----------------------------------

- 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 voltage output V_S > 13 V.
- 3) Without load, at +20 °C.
- 4) May not fall short of or exceed V_S tolerances.

Power consumption	$\leq 1.7 \text{ W}^{3)}$
Ripple	$\leq 5 \text{ V}_{pp}^{4)}$
Initialization time	$\leq 500 \text{ ms}$
Warm-up time	$\leq 20 \text{ min}$
Display	LEDs
Enclosure rating	IP65 IP67
Protection class	III
Connection type	Male connector, M12, 5-pin

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

²⁾ When using IO-Link output $V_S > 18 \text{ V}$. When using analog voltage output $V_S > 13 \text{ V}$.

³⁾ Without load, at $+20 \text{ }^\circ\text{C}$.

⁴⁾ 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	$-30 \text{ }^\circ\text{C} \dots +55 \text{ }^\circ\text{C}$, $U_V \leq 24 \text{ V}$
Ambient temperature, storage	$-40 \text{ }^\circ\text{C} \dots +75 \text{ }^\circ\text{C}$
Max. rel. humidity (not condensing)	$\leq 95 \%$
Typ. Ambient light immunity	40 klx
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.

Certificates

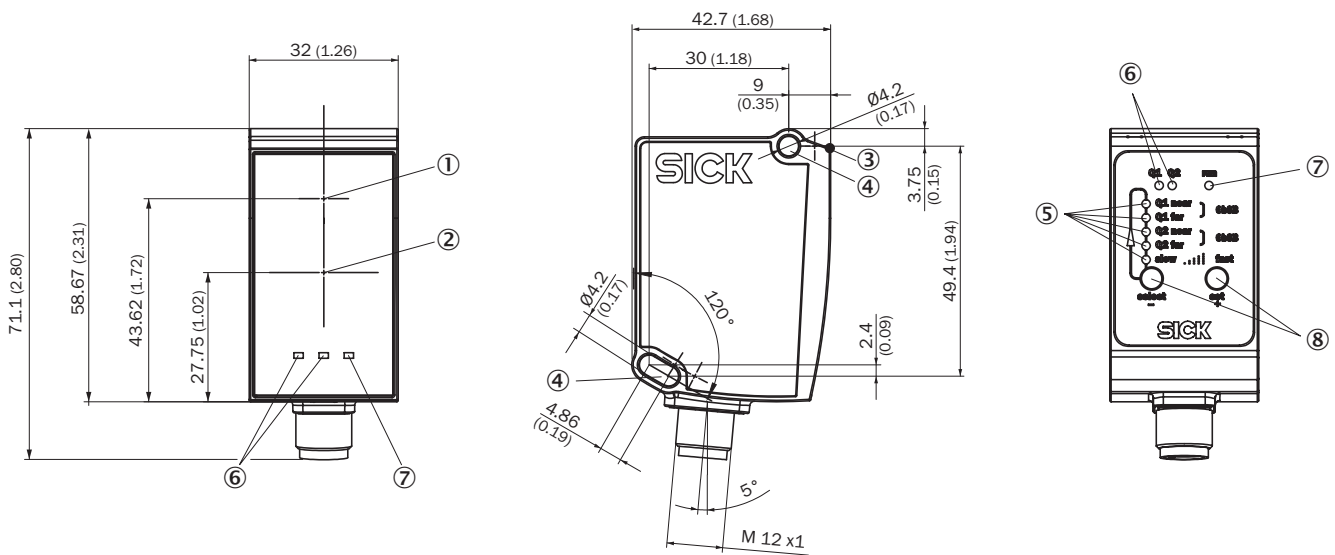
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
cTUVus certificate	✓
Information according to Art. 3 of Data Act (Regulation EU 2023/2854)	✓

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

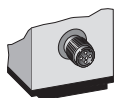
Dimensional drawing



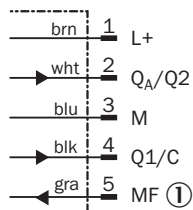
Dimensions in mm (inch)

- ① Optical axis, sender
- ② Optical axis, receiver
- ③ Zero level
- ④ Mounting hole M4
- ⑤ status indicator output Qa/Q2
- ⑥ Status LEDs output Q₁
- ⑦ Operating indicator
- ⑧ Control elements

Connection type Plug, M12, 5-pin



Connection diagram



① Multifunctional input (MF)

characteristic curve 1) Super Slow ... 5) Super Fast

Super Slow ... Super Fast

Repeatability in mm (inch)

