



# DL35-B15552

Dx35

MID RANGE DISTANCE SENSORS

**SICK**  
Sensor Intelligence.



## Ordering information

Type	Part no.
DL35-B15552	1057657

Other models and accessories → [www.sick.com/Dx35](http://www.sick.com/Dx35)



## Detailed technical data

### Mechanics/electronics

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

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

<sup>2)</sup> When using IO-Link output  $V_s > 18 V$ . When using analog voltage output  $V_s > 13 V$ .

<sup>3)</sup> May not fall short of or exceed  $V_s$  tolerances.

<sup>4)</sup> Without load, at +20 °C.

### Safety-related parameters

<b>Safety-related KPIs</b>	MTTF <sub>d</sub> > 100 years
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## Performance

<b>Measuring range</b>	200 mm ... 35,000 mm, on "diamond grade" reflective tape <sup>1)</sup>
<b>Target</b>	Reflector
<b>Resolution</b>	0.1 mm
<b>Repeatability</b>	≥ 0.5 mm <sup>1) 2)</sup>
<b>Accuracy</b>	Typ. ± 15 mm <sup>3)</sup>
<b>Response time</b>	2.5 ms ... 96.5 ms, 2.5 ms / 6.5 ms / 12.5 ms / 24.5 ms / 96.5 ms <sup>4) 5)</sup>
<b>Switching frequency</b>	333 Hz / 100 Hz / 50 Hz / 25 Hz / 6 Hz <sup>4) 5)</sup>
<b>Output time</b>	1 ms ... 32 ms, 1 ms/2 ms/4 ms/8 ms/32 ms <sup>4) 6)</sup>
<b>Light source</b>	Laser, red <sup>7)</sup> visible red light
<b>Laser class</b>	1 (IEC 60825-1:2014, EN 60825-1:2014)
<b>Typ. light spot size (distance)</b>	15 mm x 15 mm (at 2 m)
<b>Additional function</b>	Set speed: Super Fast ... Super Slow, teach-in of analog output and invertible analog output, Output Q <sub>2</sub> 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
<b>Average laser service life (at 25 °C)</b>	100,000 h

<sup>1)</sup> See repeatability characteristic lines.

<sup>2)</sup> Equivalent to 1  $\sigma$ .

<sup>3)</sup> On "diamond grade" reflective tape.

<sup>4)</sup> Depending on the set speed: Super Fast ... Super Slow.

<sup>5)</sup> Lateral entry of the object into the measuring range.

<sup>6)</sup> Continuous change of distance in measuring range.

<sup>7)</sup> Wavelength: 658 nm; max. output: 120 mW; pulse duration: 3 ns; duty cycle: 1/250.

## Interfaces

<b>IO-Link</b>	✓, IO-Link V1.1
Function	Process data, parameterization, diagnosis
Data transmission rate	38.4 kbit/s
<b>Digital output</b>	
Number	1 ... 2 <sup>1) 2)</sup>
Type	Push-pull: PNP/NPN
Function	Output Q <sub>2</sub> adaptable: Current output / Voltage output / Digital output / Q <sub>1</sub> not / deactivated
Maximum output current I <sub>A</sub>	≤ 100 mA
<b>Analog output</b>	
Number	1
Type	Current output / voltage output
Function	Output Q <sub>2</sub> adaptable: Current output / Voltage output / Digital output
Current	4 mA ... 20 mA, ≤ 450 $\Omega$
Voltage	0 V ... 10 V, ≥ 50 $\Omega$

<sup>1)</sup> Output Q short-circuit protected.

<sup>2)</sup> Voltage drop < 3 V.

<sup>3)</sup> Response time ≤ 60 ms.

<sup>4)</sup> Configurable via IO-Link.

	Resolution	12 bit
<b>Multifunctional input (MF)</b>		1 x <sup>3)</sup>
<b>Hysteresis</b>		0 mm ... 34,950 mm <sup>4)</sup>

<sup>1)</sup> Output Q short-circuit protected.

<sup>2)</sup> Voltage drop < 3 V.

<sup>3)</sup> Response time ≤ 60 ms.

<sup>4)</sup> Configurable via IO-Link.

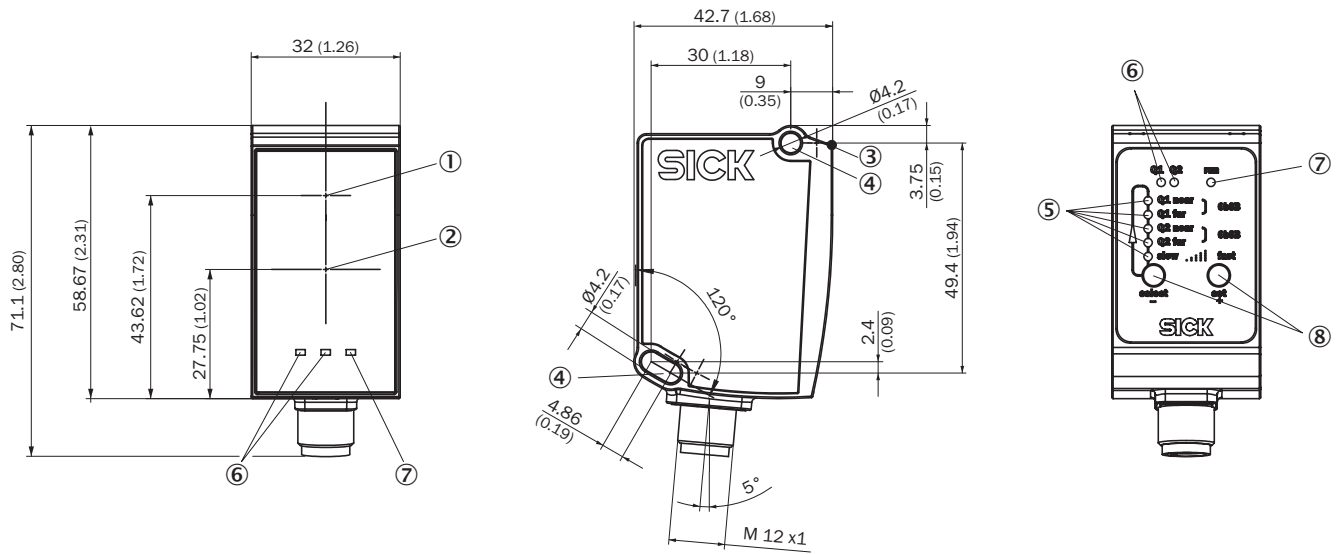
### Ambient data

<b>Ambient temperature, operation</b>	-30 °C ... +55 °C, U <sub>v</sub> ≤ 24 V
<b>Ambient temperature, storage</b>	-40 °C ... +75 °C
<b>Max. rel. humidity (not condensing)</b>	≤ 95 %
<b>Vibration resistance</b>	EN 60068-2-6, EN 60068-2-64
<b>Shock resistance</b>	EN 60068-2-27

### Classifications

<b>eCl@ss 5.0</b>	27270801
<b>eCl@ss 5.1.4</b>	27270801
<b>eCl@ss 6.0</b>	27270801
<b>eCl@ss 6.2</b>	27270801
<b>eCl@ss 7.0</b>	27270801
<b>eCl@ss 8.0</b>	27270801
<b>eCl@ss 8.1</b>	27270801
<b>eCl@ss 9.0</b>	27270801
<b>eCl@ss 10.0</b>	27270801
<b>eCl@ss 11.0</b>	27270801
<b>eCl@ss 12.0</b>	27270916
<b>ETIM 5.0</b>	EC001825
<b>ETIM 6.0</b>	EC001825
<b>ETIM 7.0</b>	EC001825
<b>ETIM 8.0</b>	EC001825
<b>UNSPSC 16.0901</b>	411111613

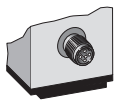
**Dimensional drawing** (Dimensions in mm (inch))



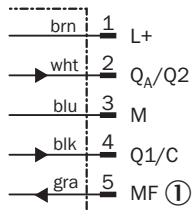
- ① Optical axis, sender
- ② Optical axis, receiver
- ③ Zero level
- ④ Mounting hole M4
- ⑤ Status indicator output Q<sub>A</sub>/Q<sub>2</sub>
- ⑥ Status LEDs output Q<sub>1</sub>
- ⑦ Operating indicator
- ⑧ Control elements

**Connection type**

Male connector M12, 5-pin



**Connection diagram**



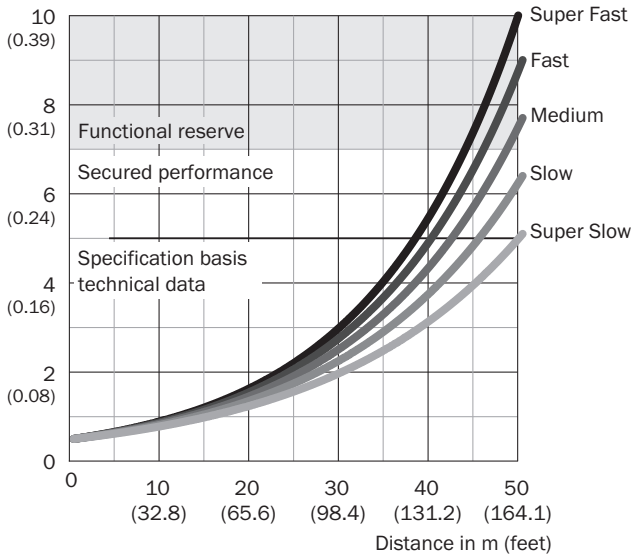
- ① Multifunctional input (MF)

## Repeatability

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





### Super Slow ... Super Fast

Repeatability in mm (inch)



## Recommended accessories

Other models and accessories → [www.sick.com/Dx35](http://www.sick.com/Dx35)

	Brief description	Type	Part no.
<b>Universal bar clamp systems</b>			
	Plate N02 for universal clamp bracket, Zinc plated steel (sheet), Zinc die cast (clamping bracket), Universal clamp (5322626), mounting hardware	BEF-KHS-N02	2051608
<b>Mounting brackets and plates</b>			
	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
<b>Plug connectors and cables</b>			
	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

<sup>1)</sup> Customizable length by sheet. Width max. 74.9 cm, length max. 91.4 cm.