



## Mid range distance sensors Dx35, DL35

DL35-B15552



**Type** > [DL35-B15552](#)  
**Part No.** > [1057657](#)

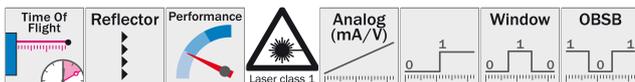


**At a glance**

- Maximum reliability, immunity to ambient light, and best price/performance ratio thanks to HDDM™ technology
- Large measuring range of 0.2 m to 35 m
- Great repeatability of 0.5 mm to 5 mm
- Fast measurement with a output rate of down to 1 ms
- Small housing size
- IO-Link as well as analog and switching output
- Choice of infrared or red lasers in class 1

**Your benefits**

- Large measuring range up to 35 m in small housing sizes makes universal use and reduced inventory costs possible
- A broad range of interfaces in one device: 4 mA to 20 mA, 0 V to 10 V, PNP output, NPN output, and IO-Link - minimizing stock keeping
- Fast output rate of down to 1 ms makes fast positioning and increased throughput possible
- No cross talk when several sensors are being used simultaneously in a constricted space
- IO-Link offers full process control, from commissioning to service
- Reduced commissioning efforts and increased machine uptime thanks to excellent ambient light immunity
- A wide variety of control options, including teach-in by cable, ensures rapid commissioning and fast batch changes
- Low investment costs and high performance levels guarantee a quick return on investment



**Performance**

Measuring range <sup>1)</sup> :	200 mm ... 35,000 mm, on reflective tape "Diamond Grade"
Resolution:	0.1 mm
Repeatability <sup>2)</sup> : <sup>3)</sup> : <sup>4)</sup> :	0.5 mm ... 5 mm
Accuracy <sup>5)</sup> :	Typ. ± 15 mm
Response time <sup>6)</sup> : <sup>7)</sup> :	2.5 ms/6.5 ms/12.5 ms/24.5 ms/96.5 ms
Switching frequency <sup>8)</sup> : <sup>9)</sup> :	333 Hz/100 Hz/50 Hz/25 Hz/6 Hz
Light source <sup>10)</sup> :	Laser, Red
Typ. light spot size (distance):	15 mm x 15 mm (at 2 m)

Additional function:	Set speed: Super Fast ... Super Slow IO-Link Reset to factory default Output Q2, selectable: 4 mA ... 20 mA/0 V ... 10 V/switching output Switching mode: Distance to reflective tape (DtR)/switching window (Wnd)/object between sensor and background (ObSB) Multifunctional input: laser off/external teach/deactivated Teach-in of analog output and invertible analog output Teach-in of switching output and switching output invertible
Laser class:	1 (EN 60825-1)
Laser service life (MTTF at 25 °C):	100,000 h
Output time <sup>11)</sup> ; <sup>12)</sup> :	1 ms/2 ms/4 ms/8 ms/32 ms

1) See characteristic curves repeatability 2) Equivalent to  $1\sigma$  3) 5) On reflective tape "Diamond Grade" 4) 6 % ... 90 % remission 6) 8) 12) Dependent on the set speed: Super Fast ... Super Slow 7) 9) Lateral entry of object into measuring range 10) Wavelength: 658 nm; max. output: 120 mW; pulse duration: 3 ns; duty cycle: 1/250 <sup>11)</sup> Continuous change of distance in measuring range.

## Interfaces

Analog output <sup>1)</sup> :	1 x 4 mA ... 20 mA ( $\leq 450 \Omega$ )/1 x 0 V ... 10 V ( $\geq 50 \text{ k}\Omega$ )/-
Resolution analog output:	12 bit
Output type <sup>2)</sup> ; <sup>3)</sup> ; <sup>4)</sup> :	1 x/2 x push-pull: PNP/NPN (100 mA), IO-Link
Hysteresis <sup>5)</sup> :	0 mm ... 34,950 mm
Data interface:	IO-Link

Multifunctional input (MF) <sup>6)</sup>: 1 x

<sup>1)</sup> Output Q<sub>2</sub>, selectable: 4 mA ... 20 mA/0 V ... 10 V/switching output <sup>2)</sup> Output Q short-circuit protected <sup>3)</sup> Voltage drop < 3 V <sup>4)</sup> Output Q<sub>2</sub>, selectable: 4 mA ... 20 mA/0 V ... 10 V/switching output/Q<sub>1</sub> not/ deactivated <sup>5)</sup> Adjustable via IO-Link <sup>6)</sup> Response time  $\leq 60 \text{ ms}$

## Mechanics/electronics

Supply voltage V <sub>s</sub> <sup>1)</sup> ; <sup>2)</sup> :	DC 12 V ... 30 V
Ripple <sup>3)</sup> :	$\leq 5 \text{ Vpp}$
Power consumption <sup>4)</sup> ; <sup>5)</sup> :	$\leq 1.7 \text{ W}$
Initialization time:	$\leq 500 \text{ ms}$
Warm-up time:	$\leq 20 \text{ min}$
Housing material:	Plastic (ABS and PC) acrylic glass (PMMA)
Connection type:	Male connector, M12, 5-pin
Indication:	LEDs
Weight:	65 g

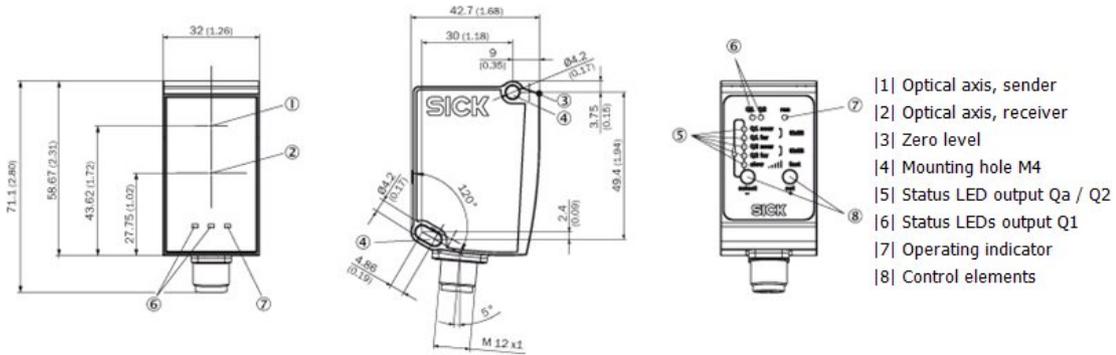
<sup>1)</sup> Limit values, reverse-polarity protected, operation in short-circuit protected network: max. 8 A <sup>2)</sup> When using IO-Link output V<sub>s</sub> > 18 V. When using analog voltage output V<sub>s</sub> > 13 V. <sup>3)</sup> May not fall short of or exceed V<sub>s</sub> tolerances <sup>4)</sup> At 20 °C <sup>5)</sup> Without load

## Ambient data

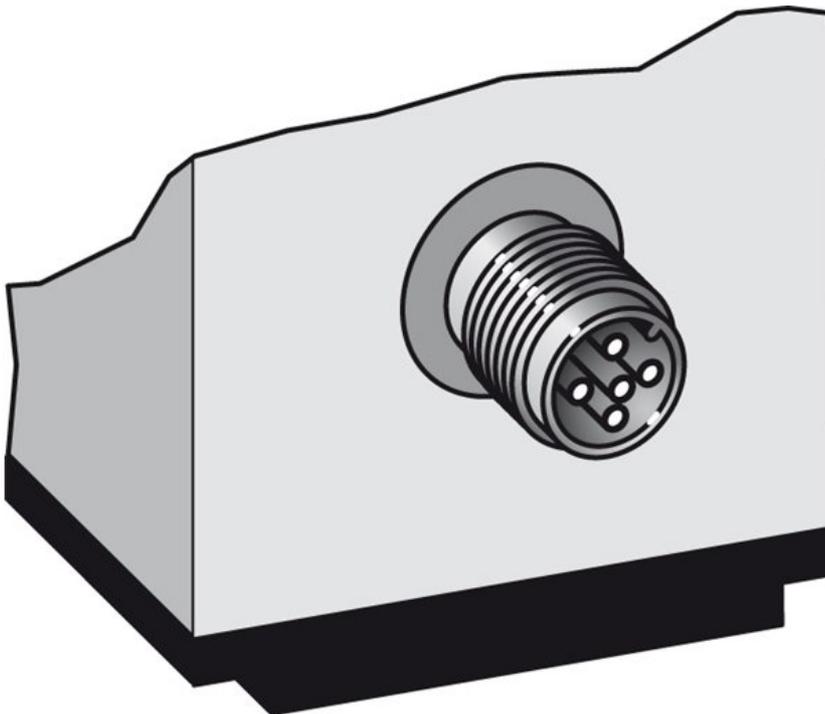
Enclosure rating:	IP 65, IP 67
Protection class:	III
Ambient temperature <sup>1)</sup> :	Operation: -30 ... +55 °C, Storage: -40 ... +75 °C
Vibration resistance:	EN 60068-2-6/EN 60068-2-64
Shock resistance:	EN 60068-2-27
Typ. Ambient light immunity:	40 klx

1)  $U_V \leq 24\text{ V}$

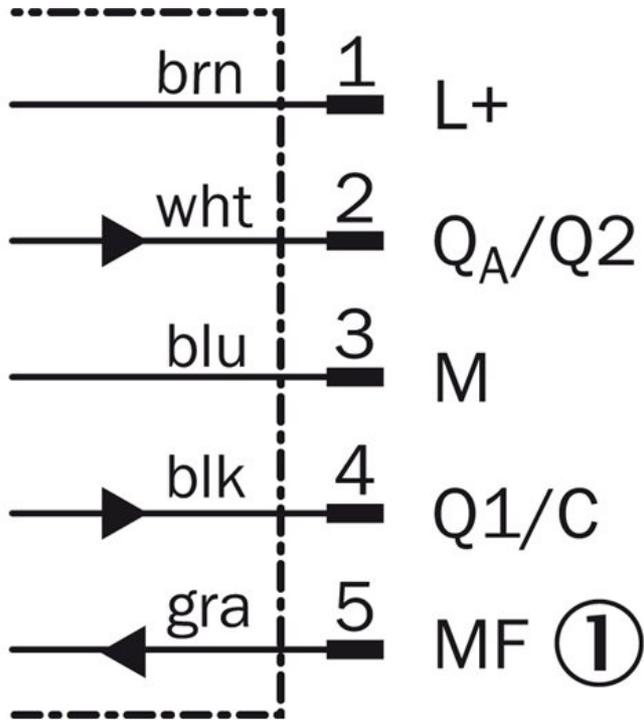
### Dimensional drawing



### Connection type



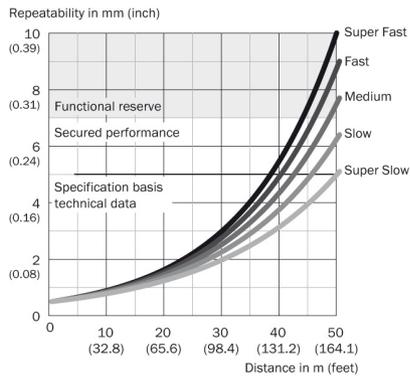
Connection diagram



[1] Multifunctional input (MF)

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

Super Slow ... Super Fast



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